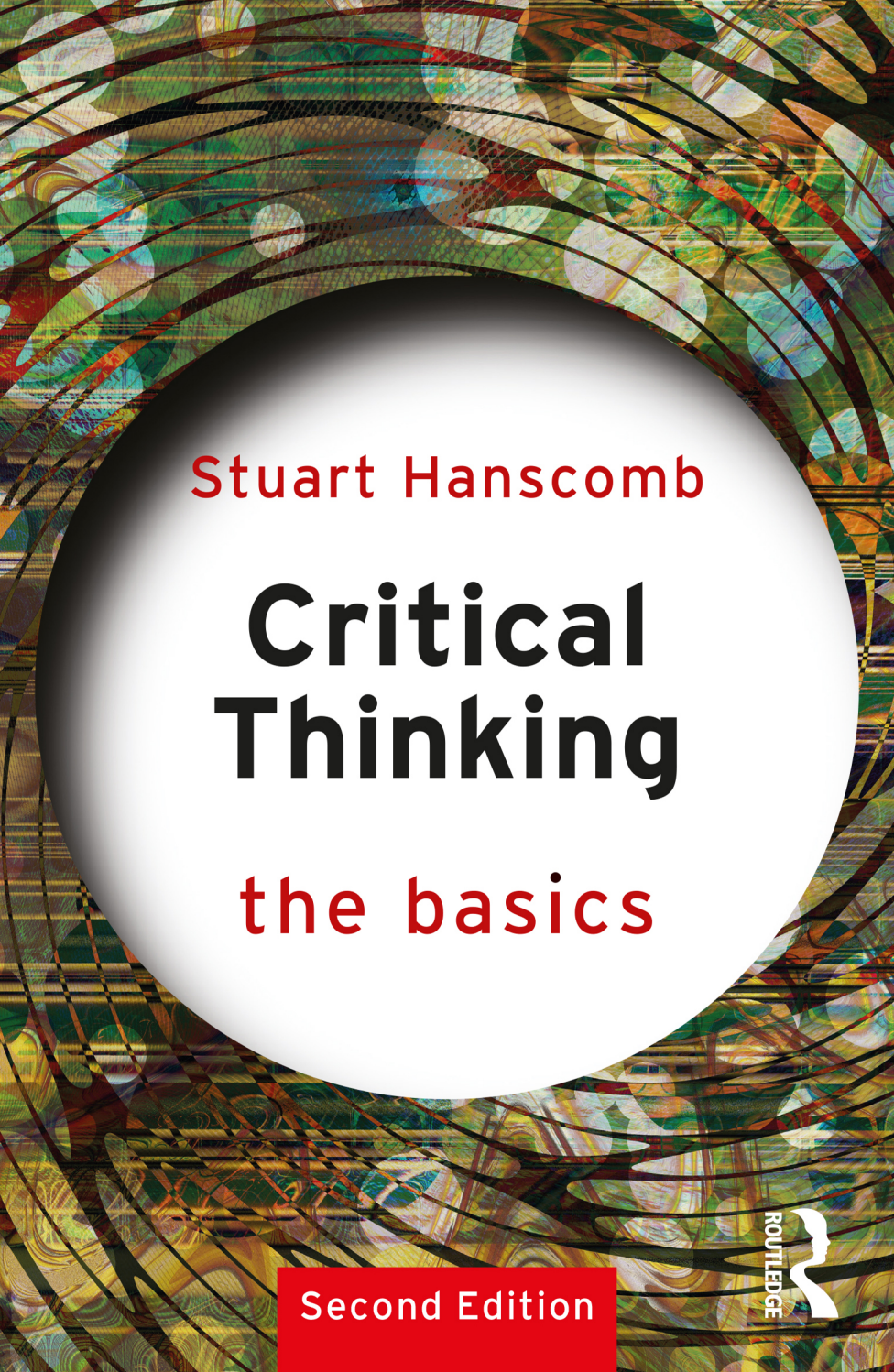
Stuart Hanscomb
Critical Thinking
the basics
Second Edition
ROUTLEDGE

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'*Critical Thinking: The Basics* covers the basics engagingly and without unnecessary jargon, provides lots of well-chosen examples and practice exercises, and, unlike most critical thinking textbooks, explains the theoretical background to the recent rise of critical thinking in education.'

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'This is an excellent contribution to the growing literature on critical thinking. The discussion on causal reasoning, heuristics and biases, framing, social power, metacognition, and self-deception are timely and valuable. *Critical Thinking: The Basics* helps to bring together the literature on the psychology and sociology of human judgement with the philosophical art of argument analysis.'

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'This text is loaded with references, explanations, history and examples from the development and enhancement of the understanding of critical thinking. It offers a coverage of the basics of critical thinking and also provides a sense of how the field and individual expectations of critical thinking are changing.'

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CRITICAL THINKING

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Critical Thinking: The Basics is an accessible and engaging introduction to the field of critical thinking, drawing on philosophy, communication, and psychology. Emphasising its relevance both to academic literacy and to decision-making in a range of contexts, this book introduces and explains the knowledge, methods, and skills needed to identify and avoid poor reasoning, reconstruct and evaluate arguments, and engage constructively in dialogues.

Topics covered include:

- The relationship between critical thinking, emotions, and the psychology of persuasion
- The role of character dispositions such as open-mindedness, courage, and self-knowledge
- Argument identification and reconstruction
- Fallacies and argument evaluation.

This second edition has been revised and updated throughout, and includes an additional chapter on the relationship between critical thinking and emotions. There are also new sections on concepts such as the 'experiential mind' and 'need for cognitive closure', and contemporary examples drawn from issues including conspiracy theories, the pandemic, and misuses of social media.

With updated and expanded discussion questions/exercises and suggestions for further reading at the end of each main chapter, this book is an essential read for students approaching the field of critical thinking for the first time, and for the general reader wanting to improve their thinking skills and decision-making abilities.

Stuart Hanscomb is Senior Lecturer in Philosophy and Communication at the University of Glasgow, UK. With Benjamin Franks and Sean Johnston he is author of *Environmental Ethics and Behavioural Change*, also available from Routledge.

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CRITICAL THINKING

THE BASICS

Second Edition

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PREFACE AND ACKNOWLEDGEMENTS

The second edition of *Critical Thinking: The Basics* contains a new chapter (on emotions and rationality), several smaller additions (such as a developed discussion of dual process theory and the inclusion of need for cognitive closure), numerous new examples and exercises, and updated references and recommended readings.

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INTRODUCTION

> My husband says I'm argumentative. He's wrong though, and here are three reasons why ... (Sacha T. Burnstorm, pers. comm.)

Eating breakfast in the kitchen, I glance up from some sobering reading and my eye is caught by a sticky note. Scribbled on it is a scene from the living room: 'Please stop chewing the remote control' says Mum. 'It's not my fault, it's a habit!' shouts back our youngest. Not bad for an 8-year-old, and hopefully a line he's picked up from Bart Simpson or Sponge Bob rather than me.

There are worse habits. The article I'm reading is about risks posed by misinformation, bullying, addiction, and the incessant exposure of harmful content to young people via social media. The world is still trying to make sense of this phenomenon, and probably will be for some while. It is hard to find comparisons for the multilayered moral and legal issues it raises, but with varying degrees of success many are trying. There are analogies with how risk of addiction is increased by slot machines intricately designed to keep people playing; the argument that the liability of social media companies should be in line with newspapers and manufacturers; evidence of cover-ups reminiscent of cigarette makers in the 1960s, and the prediction that it will

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be parents that force further legislation on the issue as Mothers against Drunk Driving did in the 1980s. There is a very long way to go with this debate, and arguments will continue to be presented to us, or generated by us, that are more or less strong, more or less well motivated.

I scribble a lot of things on sticky notes, scraps of paper, the kitchen wall – exchanges like the one above, information from podcasts, titles of songs from the radio. Sooner or later though I need to transfer them to somewhere they won't be lost. If a few have accumulated this is a chore, and in a small but significant way I'm conflicted. The right thing to do is to push through and make the effort, but an alternative is to convince myself, in that moment, that these fragments are not worth saving. Laziness, armed with self-deception, takes on truth. It's an example of what's known as cognitive dissonance (something I'll say more about in the next chapter). I'm fairly wise to it now, but it has led to some poor decisions, and will again if I'm not vigilant.

Poor reasoning and the absence of reasoning on occasions where it would serve us well is commonplace. Life is typically fast-paced and mistakes will happen, but even when things are slowed down (for example, carefully drafting an email rather than a spontaneous dialogue) we think erroneously in predictable ways.

Adding to our vulnerability is that bad arguments are often persuasive – entertaining even – impeding our ability and motivation to put them in their place. Professional persuaders (working in, say, politics or marketing) know two important things:

1. That our critical thinking capabilities are not what they might be.
2. That certain forms of persuasive communication make us less likely to pay attention to, or even look for, poor reasoning, and are therefore more likely to win us round to their point of view.

In many contexts, influencing one another through arguments based on dubious, partial, or irrelevant claims is usually not deliberate, but whether intended or not, poor arguments can be remarkably effective if they encourage our cognitive and emotional biases.

0.1 WHAT IS CRITICAL THINKING?

This is a book about how to avoid reaching the wrong conclusion in everyday, professional, and academic contexts. The fundamental subject matter of critical thinking is the reasoning we apply in a wide variety of circumstances, and its aims are twofold:

1. To improve our ability to reason and generate strong arguments.
2. To improve our ability to assess the strength of the arguments used by others.

Since we should assess our own arguments by the same standards we use to assess the arguments of others, then these aims are very closely aligned. Also, a substantial part of our overall argument on an issue is an assessment of the arguments of others. As the nineteenth-century philosopher John Stuart Mill put it:

> When we turn to ... morals, religion, politics, social relations, and the business of life, three-fourths of the arguments for every disputed opinion consist in dispelling the appearances which favour some opinion different from it. (1962, p.163)

ARGUMENTS

Although later chapters will provide more technical and detailed information about the structure and components of arguments, the basic concept of an argument is quite straightforward. There is little disagreement among academics as to what they are, and below are some examples of definitions:

> An argument is an attempt to prove or establish a conclusion. It has two major parts: a conclusion and the reason or reasons offered in support of the conclusion. (Ennis, 1996a, p.2)
>
> An argument consists of one or more statements that are used to provide support for a conclusion. (Halpern, 2003, p.183)
>
> By 'argument' we mean a claim, together with one or more sets of reasons offered by someone to support that claim. (Johnson and Blair, 2006, p.10)

BOX 0.1 WHAT IS AN ARGUMENT?

These definitions state that an argument is comprised of:

1. A *claim being asserted* that we want other people to believe is true.
2. *Reasons offered in support of this claim*, through which we try to rationally convince other people that this claim is true.

Here is your initial piece of critical thinking terminology. While the claim being asserted is simply referred to in critical thinking as a **conclusion**, a reason offered in support of a conclusion is known as a **premise**. Someone might assert that we should not eat meat. We ask for their reasons and they say that it is better for our health, for the environment, and is less cruel to animals. Whether or not we think this is convincing, they have unquestionably presented us with an argument. That we should not eat meat is the conclusion, and the health, environmental, and animal welfare benefits are the premises.

This meaning of argument, then, does not refer to bad-tempered disagreements or rows. If we are having a quarrel with someone, then arguments (in the sense of conclusions with supporting reasons) will be put forward or implied, but the two uses of the word are clearly very different.

The context in which arguments are put forward is, however, one of disagreement. The reason for offering an argument is usually to provide the other person with reasons for believing something which you want them to believe, but which they do not currently believe. Not all conversations involve arguments, but many do. We talk to each other for lots of reasons – to entertain and be entertained, to inform and find out information, to offer and seek explanations – but an important purpose of conversation is to express our view on an issue. Often when we do this the other person will ask why we hold this view, and our response will usually take the form of an argument.

DEFINING CRITICAL THINKING

Central to critical thinking is the process of identifying what the argument is that is being put forward, and determining whether

the premises justify accepting the conclusion. The broader aim is to improve our deliberations and, ultimately, our decision-making. In this vein Robert Ennis, author of one of the most influential textbooks on the subject, defines critical thinking as:

> Reasonable reflective thinking focused on deciding what to believe or do. (1996b, p.166)

Ennis's reference to 'doing' as well as 'believing' underlines how it is very much an applied area of study; it intends to teach knowledge and skills that have a clear practical application.

American philosopher John Dewey is often credited as the originator of critical thinking as a field of study. In his book, *How We Think*, Dewey defines what he calls 'reflective thinking' as:

> Active, persistent, and careful consideration of a belief ... in the light of the grounds which support it... (1910, p.6)

'In some cases,' he says,

> a belief is accepted with slight or almost no attempt to state the grounds that support it. In other cases, the ground or basis for a belief is deliberately sought and its adequacy to support the belief is examined. This process is called reflective thought; it alone is truly educative in value. (ibid, p.2)

Dewey's choice of words – 'active', 'persistent', 'careful' – indicate the emphasis critical thinking places on a responsible and effortful marshalling of our thoughts. Instead of passively accepting what appears right on the surface, or what we have always believed, we *actively* consider whether something should be believed or not. The 'stream or flow' of ideas that pass through our mind becomes a 'chain, or thread' (ibid, p.3) – we impose on them an order that allows us to assess whether they should be believed or acted upon.

How, then, do we bring order to our unruly thoughts and become better critical thinkers? There are three aspects to this:

1. Theoretical knowledge about arguments, rationality, and all of the other elements covered in books like this one.
2. Practise – *a lot of practise* – in applying this learning to examples of arguments and exchanges between people that involve arguments and counterarguments.

3. Self-reflection on how we form our beliefs and how we interact with others.

Advice with respect to how this book can facilitate the second of these can be found at the end of this chapter (and I would urge you to read this section carefully, since to get the most from this subject it is vital to combine what textbooks offer with external experiences and materials).

With respect to the third point, although critical thinking is about avoiding errors in our reasoning and assessing the quality of arguments, in a very important sense it is also about *us*. It is about us as human beings, vulnerable to biases in our thinking, to moods and emotions that can cloud our judgement, and to character dispositions that entrench these tendencies. And it is about us as individuals with a desire to know more about our strengths and weaknesses and how to eliminate, mitigate, and improve upon them.

This book, then, is about how we can improve our thinking so that we become better disposed to making good judgements, and it is also therefore about self-knowledge: greater awareness of the aspects of psychology and character that are relevant to constructive deliberation and improved decision-making. Put another way, critical thinking can contribute to self-improvement, and knowing about the self can help improve critical thinking. This book considers the importance of critical thinking as part of the wider question of how to live well.

0.2 CRITICAL THINKING AND THE SPIRIT OF PHILOSOPHY

Critical thinking's historical origins can be identified in two foundational features of Western philosophy: (1) commitment to truth (even in the face of social and political pressures to remain ignorant); and (2) the individual's development of virtues associated with wisdom and sound judgement (with self-knowledge among the most prominent). In what is often taken to be the seminal work of modern philosophy, René Descartes opens his *Meditations* (originally published in 1641) with the following resolution:

> It is some time ago now since I perceived that, from my earliest years, I had accepted many false opinions as being true, and that what I had

> since based on such insecure principles could only be most doubtful and uncertain; so that I had undertaken seriously once in my life to rid myself of all the opinions I had adopted up to then, and to begin afresh from the foundations. (1968, p.95)

Descartes is expressing not just a desire for truth, but recognition that the search for it must involve self-examination. In the eighteenth century, Enlightenment thinking championed reason over superstition and tradition in politics and ethics as well as science. Reason was regarded not just as the route to the truth, but as a virtue that benefits the individual and society. Through reason comes progress, and to be willing to apply rational thinking to all issues is to take responsibility for one's destiny; to grow up. In his 1784 essay *An Answer to the Question: What is Enlightenment?* Immanuel Kant emphasised freedom from 'self-incurrent tutelage' – the 'resolution and courage' to think for ourselves ([1784] 1963, p.3).

These are examples of great philosophers and scientists challenging established knowledge, such as religious dogma and ancient scientific assumptions. Most of us are not going to be the authors of world-changing theories, but the lesson from philosophy for most individuals concerns the attitude we take to our own lives and the issues that define them. Basic to this is the importance of thinking through our beliefs rigorously, testing them out where possible, and *taking responsibility* for them. In this vein, the nineteenth-century philosopher Søren Kierkegaard observed in *The Present Age*:

> There are handbooks on everything, and generally speaking education will soon consist of knowing letter-perfect a larger or smaller compendium of observations from such handbooks, and one will excel in proportion to his skill in pulling out the particular one, just as the typesetter picks out letters. ([1846] 1979, p.104)

His complaint concerned how, in an age proud to define itself as scientifically and socially progressive, individuals come to see themselves as embodying this progress without themselves needing to put the work in; without, as Cardinal Newman put it a few years later in *The Idea of a University* ([1852] 1982, p.101) 'making the objects of our knowledge subjectively our own'. This is a product of concentrated thought about aspects of our world, whether novel or taken for granted; and it is to understand the value of questions like: 'What

exactly does this claim mean?', 'What can we infer from it?', 'How do I know it is the truth?', 'Why is it important to know about?', and 'What difference might knowing about it make to my life?' While critical thinking is not proposing the impossible task of understanding everything, it is proposing that there are dispositions or attitudes we can develop that make us less susceptible to error; that enable us to ask the right questions and, perhaps most importantly, to have a reflective awareness of what we, as individuals, do and do not know.

Features of what is now called critical thinking are foundational to the mood and practice of modern philosophy, but the prototypical critical thinker is the ancient Athenian, Socrates (469–399 BCE). He did not write anything, but his ideas, personality, and philosophical approach, as presented in Plato's dialogues, are hugely influential. Socrates (like his pupil Plato, and Plato's pupil Aristotle) was concerned about the level of ignorance he encountered in those around him, including teachers and statesmen. More importantly, he was exercised by people's ignorance of their own ignorance. For example, in the *Apology*, after engaging a politician with a reputation for wisdom in dialogue he concludes:

> It is only too likely that neither of us has any knowledge to boast of; but he thinks he knows something that he does not know, whereas I am quite conscious of my ignorance. ... I am wiser than he is to this small extent, that I do not think that I know what I do not know. (Plato, 1993, p.42)

He then reports on speaking with a poet and a craftsman, and in both cases finds that because they know about their particular art or skill, they then assume that they 'have a perfect understanding of every other subject' as well (ibid, p.43). This is an unwarranted generalisation which implies a lack of appropriate humility, or at least self-knowledge.

For Socrates, this attitude was created and indulged by improper education; notably an overemphasis on the practice of **rhetoric**. Through being effective in various forums (such as politics and law), rhetoric had tended to relegate and obscure both the nature and value of truth, and the frames of mind needed to attain it. Rhetoric (or oratory) in ancient Greece was the art of persuasive public speaking, and can be more broadly defined now as the art of persuasive communication. Socrates viewed it as the 'knack' of winning over

uninformed audiences by 'pandering' to them; presenting versions of reality which are superficially pleasing at the cost of true understanding. In the *Gorgias* he compared rhetoric to cookery, which,

> puts on the mask of medicine and pretends to know what foods are best for the body, and, if a doctor or a cook had to compete before an audience of children ... with the job of deciding which of them is the better judge of wholesome and unwholesome foodstuffs, the doctor would unquestionably die of hunger. (Plato, 2004, p.32)

In this analogy the people of Athens are the children (a prelude to Kant's 'tutelage' metaphor), the orator is the confectioner, and the philosopher is the doctor. The weakness in the comparison is that, unlike children, the people of Athens should know better; they are, to an extent, allowing themselves to be taken in by the more palatable illusions of the speechmakers. Prominent among these illusions is the belief that their opinions are the right ones, especially if supported by those who deliver a version of them with confidence and eloquence.

Attaining true wisdom (rather than the superficial appearance of it) requires the disquieting knowledge of our ignorance and a commitment to 'examining life' that is hard, if ultimately rewarding. For Socrates, being able to think independently and competently is a fundamental component of living well and being happy, and he saw himself as a living reminder of this fact. Famously he gave the state little option but to kill him for his troubles, but in defence of himself he argued in the *Apology* 'if you put me to death, you will not easily find anyone to take my place'. He depicted his city as

> a large thoroughbred horse which because of its great size is inclined to be lazy and needs the stimulation of some stinging fly; and all day long I never cease to settle here, there, and everywhere, rousing, persuading, reproving every one of you. (1993, p.54)

We do not need to be agitators in this way to be critical thinkers, but the horse and fly metaphor can also represent our attitude to ourselves – *we need to be our own horse fly*. Critical thinking is a form of 'rousing', helping to improve our error-prone habits of thought and action.

The Socratic method is **dialogue**: the exchange of views – of explanations and arguments – between two (or more) people. A lot will be said about the nature and importance of dialogues in Chapter 3,

but aspects of its significance for Socrates will be briefly discussed here. A dialogue can involve people (often just two) with opposing views trying to convince each other of the rightness of their particular view; or it can be an attempt to persuade an uncommitted person. In Socrates's dialogues we usually find him questioning someone who believes they know something with the aim of testing the firmness of the grounds of that belief. Whilst Descartes in his *Meditations* engaged in a kind of internal dialogue to establish what he should and should not accept as true, the Socratic method is interpersonal.

Socrates also saw himself as a 'midwife', assisting the person, through philosophical discussion, to realise the status of their beliefs. The vital point of the midwifery metaphor is that the individual is not handed the truth (for example, as something to be learned by rote), but is encouraged to reason their way to it. Most of us will know from experience what this kind of clarity feels like: we remind ourselves of why we know what we know, or alternatively we discover that we do not know what we thought we knew, and through reasoning come to appreciate our ignorance. It must be said that reading many of Plato's dialogues can leave us with the impression that Socrates did not always help people achieve this, but the principle stands and remains basic to many educational practices. Rather than passive absorption, dialogue is active, and rather than dependence on the wisdom of another, it emphasises independence of thought. As we have seen, these are basic to Dewey's definition of critical thinking.

There is an asymmetry in many of Socrates' dialogues – he the sceptical enquirer, the other the person claiming to know something. Teachers and peers can play this role, but very often dialogues are symmetrical, with both parties having diverging convictions about the matter at hand. Under these conditions the risk is that competition and emotion interfere with truth-seeking. That aside, holding a constructive dialogue is not simply a matter of common sense. For these reasons, as we will see in the next section, strains of critical thinking have placed great emphasis on understanding and promoting the art of dialogue.

The spirit of philosophy, as exemplified by Socrates, can be summarised in terms of four archetypes:

- *The critical thinker*: questioning assumptions about the way the world is.

- *The seeker*: of ultimate truths (even if this is the realisation that there can be no such truths), and of happiness or an otherwise fulfilling life.
- *The reflector*: self-understanding with respect to what one wants, what one wants to want, and the tendencies we have that impede our chances of achieving these insights.
- *The rebel/agitator*: challenging the assumptions and practices of others with the aim of improving society.

Socrates was all of these things, and other philosophers will embody all or some of them. The perspective of this book is that critical thinking as a discipline should not be isolated from these other characteristics. Whilst it is not my view that that being a critical thinker is the sole component of a fulfilling life, it is nevertheless vitally important to that end. As already highlighted, self-understanding will be improved by the approach I am taking, and other virtues seen as basic to human fulfilment are often associated with effective critical thinking. The ethical and democratic value of being a critical thinker will be explained soon and also addressed throughout the book.

Before moving on to outline modern approaches to critical thinking, I will say something about the status of rhetoric in the later dialogues of Plato, and in the writings of Plato's pupil, Aristotle. They came to recognise that rhetoric is something to be studied – an art or skill (*technê*) – and not merely natural eloquence enhanced by rote learning and imitation. Part of learning rhetoric is to understand the ways in which people are susceptible to persuasion – what we now refer to as the **psychology of persuasion** or the psychology of influence. Many of Aristotle's insights in *The Art of Rhetoric* are supported by modern research, including how emotions function to bias judgements, the persuasive power of examples and metaphors, and the importance of the speaker's authority and likeability (or at least the appearance of these things). From the critical thinker's perspective, an appreciation of the ways in which we can be unconsciously influenced matters (1) because it allows us to be on our guard against these processes, and (2) because of how these influences are able to explain some of the errors we make in our judgements.

As we shall learn about in Chapter 2, it is now well known in psychology and communication that arguments alone are rarely enough

to make us change our behaviours. Plato and Aristotle knew this too. Aristotle emphasised the value of rhetoric as compensating for the limited intellect or attention span of audiences (1991, pp.75–6), and in the *Phaedrus* Plato recognises that knowledge of psychology ('the nature of the soul') has a part to play in changing minds. Both maintained, however, that the most persuasive speakers are those who also have some depth of knowledge of the topic they are speaking about. Moreover, if the philosopher is going to offer any degree of approval of the practice of rhetoric, consideration must be given to the ends to which it is put: the improvement of society or merely the self-advancement of the speaker. In short, rhetoric is a topic worthy of the attention of philosophers.

0.3 THE HISTORICAL AND ACADEMIC CONTEXT OF CRITICAL THINKING AS A DISCIPLINE

As we have seen, the spirit of philosophy and the spirit of critical thinking are closely related, but the analysis of arguments and reasoning is specific to the branch of philosophy known as logic. Logic is primarily interested in what is called 'validity' (see Chapter 5 for a discussion of this concept), or the rules that govern our assessment of inferences. An inference is the step we make in reaching a conclusion based on certain premises. A simple example would be inferring that someone is married because they wear a wedding ring or, with greater certainty, that an object is considered (by some) to be a work of art because it is on display in an art gallery.

If logic in general is the study of arguments and reasoning, **informal logic** is the study of arguments and reasoning as employed in real-life contexts, rather than in abstraction. It is interested in the kinds of arguments people use in their professional and daily lives, how effective these are, the mistakes that are made, and how we can avoid making these mistakes. To an extent it is possible to represent these arguments in schematic (abstract) forms, but a more complete understanding of them requires contextual knowledge about the topic under discussion, the audience the argument is directed at, and certain characteristics of the person presenting the argument. It is these considerations that informal logic seeks to make explicit, and in so doing it offers a systematic approach to understanding

and evaluating everyday arguments. This involves skills concerning comprehension and interpretation – working out what the person's overall point is and the reasons they are providing (or implying) in support of it – and of assessing the strength of the inference. Both comprehension and assessment involve an understanding of typical forms of reasoning and typical mistakes in reasoning (**fallacies**); an understanding that is enriched by a range of empirical considerations, most notably the psychology of cognitive biases and their motivational underpinnings.

It was traditional logic's disinterest in this wider context that led to informal logic asserting itself as a highly distinctive sub-discipline in the mid-to-late twentieth century. Early examples of this paradigm are Stephen Toulmin's *The Uses of Argument* (1958), C.L. Hamblin's *Fallacies* (1970), and Michael Scriven's *Reasoning* (1976). Of greatest influence, however, have been Ralph Johnson and Anthony Blair, whose textbook *Logical Self Defense* was first published in 1977, and who launched the first journal devoted to the discipline – *Informal Logic Newsletter* – in 1978.[1]

Also in the latter part of the twentieth century the more explicitly interdisciplinary field of **argumentation** developed. Of particular importance was the attention it paid to dialogues: their categorisation and an analysis of the norms and rules that should govern them if they are to be constructive. Here the work of philosopher Douglas Walton and the theory of pragma-dialectics (developed at the University of Amsterdam by Frans van Eemeren and Rob Grootendoorst in the 1980s) have been influential in their analyses of the components and rules of what they term 'critical discussions' – dialogues in which participants with differing views on an issue present arguments to one another in the hope of reaching a resolution. These join a number of theories which emphasise the interpersonal and wider social aspects of argumentation: 'rhetorical argumentation' (Perelman and Olbrechts-Tyteca, 1969), 'feminist argumentation' (Nye, 1990), 'coalescent argumentation' (Gilbert, 1997), and 'cooperative argumentation' (Makan and Marty, 2001). These approaches to argument and reasoning have closely aligned informal logic with rhetoric and applied communication, and it is noteworthy that many have sought to create alternatives to competitive ('adversarial') models of dialogue.

More recently there has been growing interest in the links between critical thinking and psychology, and in particular the now extensive and quite well-understood range of biases that can affect judgement and decision-making. If there are identifiable kinds of widespread mistakes in reasoning that are consistently revealed in informal argumentation – for instance seeing causal relationships where they do not exist, making hasty generalisations, or determining the quality of an argument by reference to irrelevant attributes of the arguer – then it is reasonable to expect that there are underlying cognitive biases that predispose us to make these errors. Researchers in the fields of philosophy and psychology have tended to follow parallel paths in their investigations of reasoning, but convergence is now happening that is substantially enriching the interdisciplinary field of critical thinking (e.g., Halpern, 2014).

The motivation of critical thinking scholars is to make logic useful and have direct, practical application to daily life so that someone who took a course in it would not only be better at logic, but a better deliberator on worldly affairs, and show improvement in general academic abilities. Similar desires inspired the education-oriented 'critical thinking movement' in the US in the 1980s. Prime movers such as Richard Paul and Robert Ennis (who were also instrumental in developing informal logic) were critical of the standards and *standing* of critical thinking in American school curricula and sought, with some success, to raise its profile and generate materials and techniques for its teaching. 'Our overemphasis on rote memorization and recall of facts' says Richard Paul:

> does not serve us well. We must exchange our traditional picture of knowledge and learning for one that generates and rewards active, independent, self-directed learning so that students can gather and assess data rigorously and critically. We need to abandon methods that make students passive recipients of information and adopt those that transform them into active participants in their own intellectual growth. (1995, p.45)

Along with significant emphasis on its role in a healthy democracy, Paul stresses the importance of **critical thinking dispositions**. 'Weak' approaches to critical thinking teach only the skills of argument analysis, but a 'strong' approach seeks to foster habits of thinking and dispositions (character traits) – such as reduced egocentricity – that have a deeper, more holistic effect on the individual's development.

To use higher education scholar Ronald Barnett's expression (1997), students become 'critical beings' rather than just people able to argue. Paul (1984a) also sees dialogical context – arguments encountered and analysed along with counterarguments in unfolding debates and discussions – as crucial for nurturing this 'strong' conception of critical thinking. Having one's beliefs subject to open-minded and respectful questioning, along with a critical stance towards the positions of others, encourages personal insight and responsibility. It is part of what Dewey called a 'community of inquiry', and 'schools that model themselves on such a community,' says educationist Deanna Kuhn,

> foster not just the acquisition of knowledge, but the acquisition of reason and judgement – the ... [essential condition] for participation in a democratic society, as well as for realization of a fulfilled individual life. (1991, p.298)

In *The Skills of Argument* (1991) – an empirical investigation into people's explanations of various social phenomena (such as failure at school) – Deanna Kuhn theorises increasingly sophisticated ways of understanding the status of knowledge and how it is achieved. 'Absolutist' thinkers presume that there are clear answers agreed upon by the experts, while 'multiplist' thinkers recognise divergent views but assume there is no way of reconciling them. Faced with this barrier, they are liable to fall back on whatever first-hand experience they have for explaining the phenomenon in question because, according to this perspective, what you believe in the end comes down to a matter of subjective opinion. 'Evaluative' thinking, on the other hand, sees how progress can be made by assessing divergent opinions towards a conclusion based on the relative strengths of competing ideas. This perspective is correlated with critical thinking, and it is easy enough to see why. If you think that knowledge is simply waiting to be discovered by those with the skills or experience, or that it is just a matter of opinion and that multiple opinions have 'equal legitimacy' (ibid, p.184), then argumentation is not likely to be seen as valuable. Conversely, a deepening appreciation of the complexity and limitations of branches of knowledge, including the uncertainty inherent in the social sciences and how they inform policy, helps establish the value of argumentation. And as Kuhn rightly points out, 'people must see the point of argument, if they are to engage in it' (ibid, p.201).

0.4 ALTERNATIVE APPROACHES

This book largely works within the tradition set out in the previous section. At its centre is the analysis of arguments and the processes of argumentation, and both skills and dispositions are regarded as important. Sharing the spotlight with cognitive biases and the motivations that underpin some of them is still relatively unusual, but they are linked in very important ways, and strongly aligned with the book's emphasis on the value of critical thinking for self-understanding.

Before moving on, and to help explain this approach, I will briefly highlight some alternative emphases within the discipline. The previously mentioned basic definition of critical thinking – 'reasonable reflective thinking focused on deciding what to believe or do' (Ennis, 1996b, p.166) – leaves a lot of scope for what precisely this should include. I don't think there could be an approach that neglects the analysis of arguments in some form or other, but there is then a long list of other subject matter that you may or may not find in various textbooks. This includes argumentation and dialogue, dispositions (or epistemic virtues), problem-solving, scientific methods, cognitive biases, and very occasionally 'critical theory'.

My exclusion of scientific methods is linked to the debate about how transferrable critical thinking is, and its connection to specifically academic skills. My view is that while a general sharpening of perceptual and analytic skills, and in particular a critical (enquiring, open-minded) frame of mind will certainly result from a well-taught critical thinking class, being appropriately critical within one's subject is something that must largely emerge from the teaching of that subject. Scientific methods are always taught along with specific natural and social science disciplines, and there is no reason why quite a philosophical perspective cannot be taken within this context.

Learning about methods can thus segue into the philosophy of science, and while there are clear connections between the philosophy of science and critical thinking, these are not strong enough to make it core to the discipline. Where the inclusion of scientific method is more likely is in an approach to critical thinking that is primarily geared to academic skills; a perspective that is nested in an assumption about the academic generalisability of critical thinking skills.

In my experience, however, the main transferrable value of critical thinking comes from its potential for broader personal transformation.

There is an intimate connection between the knowledge and skills it teaches and hones, the dispositions that motivate their use in a wide variety of situations, and increased insight into the person we are and want to be. In short, we are making decisions all the time, whether in academic, professional, civic, or personal contexts, and this discipline lets us see how poor some of these are and what we can do to make changes. Understood in this way, the four areas I pay attention to – arguments, cognitive biases, dispositions, and dialogues – are deeply revealing of how judgements are reached and decisions are made. They are also, as will be repeatedly demonstrated in this book, strongly interconnected.

Critical thinking is, then, often framed in terms of improving our decision-making. Problem-solving is, on the other hand, more peripheral because it extends the discipline into creative thinking and includes a set of distinctive techniques. Only occasionally it is explicitly included in critical thinking textbooks, but at the same time there is no question that the more standard content will contribute to our problem-solving abilities.

'Critical theory' – a post-Marxist paradigm which analyses ideas, behaviour, and institutions in terms of power structures – is sometimes confused with critical thinking, but has very little in common with it. Because critical theory seeks to improve democracy through exposing the hidden or overlooked reaches of power within a culture, there is an inherent suspicion of appearances and a practical application that it shares with critical thinking. It rests, however, on a set of sociopolitical insights, theories of knowledge, and specialised methods, and in this respect is much more at home among other wide-ranging philosophical ideas (like postmodernism). For most, then, a school of thought like this is too different to warrant a close association with critical thinking. That said, there is a fringe that stretches the discipline in a way that encompasses critical theory (see Davies, 2015), and the section below (on ethics) has a flavour of this way of thinking.

0.5 CRITICAL THINKING AND ETHICS

In this section I will address two issues associated with the ethical consequences of critical thinking. The first is linked with its protective function and concerns critical thinking's potential for

empowering individuals faced with the agendas of others, and the need to be appropriately self-determining. Value is placed on knowing ourselves and choosing the direction of our lives to the extent that this is possible. Arguing for the virtues of critical thinking in this respect can quickly elide into a generalised view of what constitutes an ideal education in a modern liberal democracy.

Harvey Siegel offers a further reason for the ethical value of critical thinking in education – 'democratic living'. Democracies, he says:

> rely for their health and well-being on the intelligence of their citizens. ... such intelligence, if it is to truly be of benefit, must consist in part of the skills, attitudes, abilities and traits of the critical thinker. It is not simply an intelligent citizenry, but a critical one, which democracy wants. (1988, p.60)

The argument goes that democracy is a good thing, and to maintain this good thing, individuals need to be able to deliberate effectively when engaging with the fast-moving, multifaceted, multivoiced, bias-laden debates that are now basic to modern democratic living. Although clearly informed by knowledge of a range of issues and disciplines, being a democratic citizen is not itself a specialist subject to be learned as one would learn chemistry or history. The judgements a democratic citizen needs to make, however, are significantly assisted by the knowledge, self-knowledge, and know-how of critical thinking.

The second ethical consequence of critical thinking I would like to discuss is less favourable and concerns its place in the increasingly instrumental approach to education that is dominant in many Western countries. When discussing its ethical qualities, Siegel says:

> Critical thinking is no rubber-stamp friend of the *status quo*; indeed it is an enemy of the unjustifiable status quo. (ibid, p.55)

There is a sense, however, in which it has been co-opted into an 'unjustifiable status quo' within education. If you read the rhetoric of most universities in English-speaking countries there is surprisingly little mention of the value of learning for its own sake – of finding out about and being fascinated by the world – and a lot about how students will graduate with transferable skills, be highly employable, and be 'equipped for the workplace'. If we are to understand the modern aims of higher education through the lens of what are called 'graduate attributes' then the emphasis on learning for the sake of

something else – being an effective team worker, problem solver, communicator – is striking.

For our purposes the important point is that some variation of critical thinking appears on virtually all these lists and is thus implicated in an instrumentalist turn in higher education. If you are not worried about this development then there is no ethical issue, but if you are then critical thinking needs to be careful how it situates itself in this setting.

My view is that this is a genuine concern. Transferable skills are certainly important, and of course many students will want to know where their degree might lead and how it can take them there, but it is a matter of balance. We need to avoid the implication that university is only for a certain type of person; not all students will have or want a clear idea of future directions and are primarily at university to learn things about subjects they care about. But perhaps more importantly, for most students, love of learning and deep immersion in the subject matter of their degrees will be a possibility even if they enter higher education with a broader instrumental agenda. The trouble with this hefty emphasis on graduate attributes and measuring the value of a degree in terms of employability or financial rewards is that the 'finding out about the world' aspect is liable to be diminished or even forgotten. Understanding learning for the sake of a career and all that this implies is easy for most people to understand and accommodate, but the value of a deep engagement with the knowledge an academic discipline brings is more abstract and not always so easy to truly appreciate. So, in the context of global capitalism and the marketisation of higher education, it needs to be preserved.

0.6 THIS BOOK'S APPROACH (1): OVERVIEW OF CONTENTS

Chapter 1 seeks to explain rationality with a strong emphasis on the psychology of judgement and decision-making. Chapter 2 is about the relationship between rationality and emotions, and the role of emotion in argumentation. Chapter 3 concentrates on critical thinking dispositions and the nature of constructive dialogues. Chapter 4 is an in-depth look at the nature of arguments and explains the art of argument reconstruction – setting out the essential structure and

content of arguments expressed in natural language so that they can be better understood and responded to. Chapter 5 explains deductive, inductive, and what are called 'plausible' arguments; defines and explains fallacies, and introduces 'critical questions' as a method of interrogating arguments. Chapters 6–9 are concerned with a range of argument forms and their associated fallacies. These include arguments from authority, ad hominem arguments (those attacking the person rather than what the person has to say), causal reasoning, generalisations, and arguments from analogy. In each case my analysis will include discussion of their persuasive (or rhetorical) potential and the cognitive and motivational biases that predispose us to them; their relevance to certain critical thinking dispositions (and the absence of these dispositions); and their impact on attempts to generate constructive dialogues. Chapter 10 explains some further fallacies that are important to know about, and the book's final chapter includes some reminders of how critical thinking is not just about assessing the arguments of others, but how we construct and reflect upon our own arguments as well.

0.7 THIS BOOK'S APPROACH (2): THE USE OF EXAMPLES

The examples used in critical thinking books usually involve general subject matter – statements and arguments that do not require specialist knowledge to understand. Up to a point the strength of an argument is determined by the form it takes – an argument containing a contradiction is very likely to be a weak one, as is one that appears to jump to a conclusion without providing sufficient premises – but mostly it is the combination of the form of the argument employed and the context and subject matter of that argument that decides its quality. This means that in order to do critical thinking properly we need to know something about the issue being discussed. Topics that fall under 'current affairs' and 'general knowledge' thus serve two purposes: first their familiarity allows for a deeper understanding of the kind of work that critical thinking undertakes; and second they can serve to illustrate how you should go about applying critical thinking to the subject matter and situations (academic, professional, civic, personal) that you have significant knowledge of and responsibility for.

With this in mind I will make a few points about the examples and exercises found in this book:

1. For the various argument forms discussed I will provide multiple examples so that, hopefully, those readers not familiar with some will be more familiar with others, and where necessary relevant background information will be provided. These examples will come from a combination of academic and non-academic sources, but in all cases I have tried to make them as interesting or as topical as I can. (I should also point out the unusual approach to referencing used in this book. As a general rule, texts relevant to the ideas I am discussing will be shown as in-text citations with the full information found in the reference list at the end of the book. Texts that serve only as examples of these ideas are fully referenced via the chapter endnotes.)
2. Since context, including dialogue, is so important for the proper understanding and assessment of arguments, then students and other readers will gain far more from applying their learning to extended examples rather than brief and isolated ones. An upshot of this is that critical thinking is best learned through materials and experiences that no textbook by itself can hope to provide.

However, remedies are not so hard to find:

1. If you are learning critical thinking in university or at school then you and your teacher can select your own examples. These could come from subjects being studied alongside critical thinking, or perhaps more profitably from the current affairs of the place and time you find yourself in. Students of critical thinking should get into the habit of seeing patterns of argument and reasoning errors in the world around them (and in ourselves), and being tasked with finding examples is an ideal way of helping to establish such a habit.
2. A similar point goes for those of you interested in critical thinking but who are not currently in formal education. Apply what you learn here to the information and conversations you encounter at work and in other areas of your life.

3. Extended arguments and argument-based narratives can be found in various media, including documentaries, books, essays, opinion pieces, speeches, and works of fiction. I make reference to many such examples in this book, but there are endless possibilities, and I can very happily guarantee that the ideas and skills you will learn from these pages will give you insight into, and the tools to analyse, any text you choose that involves argumentation and rhetoric. Each chapter (aside from this one and the conclusion) lists some exercises at the end, but this always assumes the additional recommendation of applying this learning to examples selected with your context or interests in mind.

Perhaps unexpectedly the extended text I have found to be the most effective for teaching and learning critical thinking is the film *Twelve Angry Men* (written by Reginald Rose in 1957, originally as a TV drama, but later made into a film by Sidney Lumet). Since I will make recurring reference to it in the book, I will briefly explain the story. Set in New York, a jury of twelve men have to reach a unanimous verdict on a murder case in which a 16-year-old is accused of killing his father. If he is found guilty, he will face capital punishment. On the surface the case seems open and shut – the boy is clearly guilty – but one member of the jury (Juror 8, played by Henry Fonda) is unwilling to return a guilty verdict before there has been at least some discussion of the case. He persuades the other eleven men to revisit the evidence, and as they do it starts to become apparent that things are not as clear-cut as they had seemed. The ensuing drama is, in effect, an extended piece of argumentation in which Juror 8 battles with the prejudices, poor reasoning, and underdeveloped dialoguing skills of most of the rest of the jury. In the process, countless arguments are presented by both sides, and many of these are representative of the argument forms and fallacies that will be discussed in this book.

Twelve Angry Men provides richness of context and in so doing brings the subject matter of critical thinking to life. It allows for a detailed assessment of the characters' arguments, biases, dispositions, and ability to engage with constructive dialogue. Reasoning, reasonableness, and their opposites are put in sharp focus by highly

recognisable behaviours, and all this in a situation where life and death pivot on certain protagonists' abilities to think critically. It's old, it's black and white, it's heavy on dialogue, light on 'action', but it is a great film by any standards and one I urge you to watch as a teacher or student of critical thinking.

I shall conclude this opening chapter with an extended definition of critical thinking as explored in this book:

BOX 0.2 DEFINITION OF CRITICAL THINKING

The aim of critical thinking is to make us better deliberators and decision makers through knowledge, techniques and a frame of mind that:

a) Help us identify the sorts of questions we should be asking before making significant decisions.
b) Help us to construct, assess, and improve our own arguments.
c) Teach us about the pitfalls associated with reasoning terms of:
    i. Weak arguments and their associated psychological biases;
    ii. Features of unconstructive dialogues; and
    iii. Dispositions that make us prone to poor reasoning and unconstructive dialogues.

FURTHER READING

- Good primary sources for understanding the Socratic spirit and his critique of rhetoric are Plato's *Apology* and *Gorgias* (multiple editions are available). A good secondary source is David Melling's *Understanding Plato* (1987), Chapter 5.
- For an excellent article on the place of critical thinking in education, including an important perspective on its relationship with discipline-specific content, see R.T. Pithers and Rebecca Soden (2000).
- A very good critical thinking textbook that also has a strong psychological angle is Diane Halpern's *Thought & Knowledge* (2014).

- For a discussion of the wider contexts of argumentation, including chapters on non-European and feminist perspectives, see Deborah Berrill (1996), and Martin Davies and Ronald Barnett (2015).

NOTE

1 Known as just *Informal Logic* since the mid-1980s.

1

RATIONALITY AND COGNITIVE BIASES

> Reflective thinking is always more or less troublesome because it involves overcoming the inertia that inclines one to accept suggestions at their face value. (John Dewey, 1910, p.13)

Learning to think critically makes us more rational. Traditionally the discipline of critical thinking does this through an analysis of arguments, including forms of fallacious (or erroneous) arguments that we typically encounter and generate in argumentation. It is also interested in what causes us to make the kinds of mistakes we do, and part of the answer comes from an understanding of the psychology of judgement and decision-making. This chapter is an introduction to aspects of this field of study, and its subject matter will remain relevant throughout the book. Here it will be addressed under three main headings: Rationality, Heuristics and biases, and Framing.

1.1 RATIONALITY

In an investigation of critical thinking, two forms of rationality are important to distinguish: 'cognitive' and 'practical' (or 'functional').

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Cognitive rationality refers to the grounds on which we hold our beliefs. Beliefs that are inconsistent with the weight of evidence presented, or which contradict other beliefs held by the individual, are prime examples of cognitively irrational beliefs. For instance, my Uncle Vance's refusal to accept that his wife Eliza was having an affair despite her acting out of character, displaying signs of guilt, 'staying late at the office', coming home smelling of aftershave, and the reports of friends who'd seen her out with another man, is a likely case of cognitive irrationality. Someone's proclamation that it is always morally wrong to break the law and then insisting that illegally assisting a suicide can be morally justified would also appear to be cognitively irrational; so too my Aunt Eliza's claim to hate all pets, while evidently loving my brother's dog.

Practical rationality refers to the alignment between our desires or goals on the one hand, and our decisions and actions on the other. A decision is rational in this sense if it is consistent with achieving our goals. If Annie wants to pass her exam it is not rational to forsake the necessary revision for a night on the Jägermeister with her pals; but if Josie has finished her exams, wants to unwind with friends, and likes Jägermeister then such a night could well be a rational decision. So, Annie could have the cognitively rational belief that she needs to revise in order to pass her exam, but because of some form of denial, or perhaps weakness of the will, make the practically irrational decision to go out with friends.

Practical rationality works best where there is self-understanding – knowing what our wants are, and how these wants are prioritised – along with an accurate appreciation of how the world is in relevant respects. In this sense it clearly benefits from cognitive rationality, but there is no necessary connection between the two. The belief that driving a manual car does not require any practice when you've only ever driven automatics, justifies, in the practical sense, accepting a manual rental car on arriving at the airport, but my friend Sacha now appreciates that this conviction was cognitively irrational.

TWO SYSTEMS

Cognitive psychologists will agree that decisions are influenced by different forms of information processing, and from our own

experiences we know the difference between reasoned deliberation and quicker decisions that involve little or no concentrated thought. There is less agreement, however, on how we categorise these modes of thought; for example, whether there are discrete systems of fast and slow thinking, or a continuum running from automatic decision-making through to decisions based on the abstract reflections and controlled attention.

The more common view – found in what are called **dual process theories** – is that humans have two 'modes of thinking', typified by what Amos Tversky and Daniel Kahneman (1974) call **System 1** and **System 2** thinking. I will work with this terminology in this book, but it should be acknowledged that a more nuanced categorisation (or a continuum) could turn out to be more accurate (see Further reading at the end of this chapter). For our purposes, the general distinction between automatic and reflective thinking that the System 1/2 model points to is uncontroversial. And it is this general distinction that matters for understanding how critical thinking can provide insight into, and help us manage, the ways we process information towards making decisions. They are described in this way:

> *System 1* operates automatically and quickly, with little or no effort and no sense of voluntary control.
>
> *System 2* allocates attention to the effortful mental activities that demand it, including complex computations. The operations of System 2 are often associated with the subjective experience of agency, choice and concentration. (Kahneman, 2012, pp. 20–1)

Most of our thinking is guided or influenced by System 1, which is well adapted to quick decision-making amidst routine activities in familiar environments. The more that System 1 can handle, the more energy we have for mustering System 2 to attend to the unfamiliar and to tasks that require concentrated attention. Among the examples of System 1 thinking offered by Kahneman are routine driving on an empty road, understanding straightforward sentences, and familiar arithmetic such as 2 + 2. In contrast System 2 is required for more precise or unexpected driving manoeuvres, and for more complex or unfamiliar sentences or problems to be solved. All critical thinking goes on in System 2.

These two ways of engaging with the world should be familiar to us from everyday experiences. In System 1 we are in the flow of things, letting our previous experiences guide us through the situations we encounter. In System 2 we step out of the flow and become analytical and reflective. The importance of dialectics for Socrates and Plato was that it maintains our reflective concentration. Rhetoric, on the other hand, panders to the forms of quick thinking that are basic to System 1.

The biases and heuristics that typify System 1 thinking are explored below, but the work of Tversky and Kahneman, and even more so that of Seymour Epstein (2014), also identifies its emotional and motivational drivers. Epstein's version of System 1 – the '**experiential system**' – is strongly linked to emotions and will be further explored in the next chapter. For now, I will highlight a few of its other features:

- It operates with concrete ideas, including recalled experiences, and is highly responsive to images; for it, 'seeing is believing'. The '**rational system**' (the equivalent of System 2), by contrast, recognises the potential for finding truth in abstraction.
- The experiential system is 'hedonistic'; strongly motivated by pleasurable feelings.
- Among the things that feel good are being right and being certain. This helps explain why the experiential system (or System 1) tends towards crude categorisations (such as black and white thinking) and, importantly, the conviction that the beliefs it holds are 'self-evidently valid'. It seeks to simplify the world and filter information in a way that conforms to existing ideas, including ideas we have about our worth (usually positively biased ones). The 'rational system' (the equivalent of System 2), by contrast, *if* relatively unrestrained from the influence of the experiential system, is directly motivated by arguments and evidence.
- For this reason, the rational system can change its beliefs rapidly; the experiential system, on the other hand, changes slowly.

To illustrate a couple of these ideas, recall from the previous chapter (Section 0.3) Deana Kuhn's observations of how certain styles of thinking are 'inextricably tied to an individual's own personal

experiences'. Exploring people's reasoning on the topic of why children fail at school, one response to the question, 'Could someone prove that you were wrong?', a revealing response is:

> I suppose intellectually someone could give me statistics that would show that the position I hold reflects only a minority of reasons why children fail and therefore prove I was wrong. But I would probably not change my opinion. It's the result of lifelong personal experience and quite frankly, I think it is right. I think it reflects the reality of the situation as I've experienced it. (Kuhn, 1991, p.182)

Demonstrated here is not just the profound division between these two systems' grounds for holding beliefs, but also their relative power. The experiential system is dominant, and it is stubborn – what it believes is believed because it is regarded as self-evidently valid. Strong objective evidence opposing a belief might be acknowledged by the rational system, but this is often overridden by its counterpart. To change a strongly held conviction a truth needs to be experienced as well as (or sometimes instead of) reasoned out. 'Experienced' means consistently observed, lived-through, contextualised encounters that, crucially, the person feels as well as cognitively processes.

Suggested in this brief dip into Epstein's theory is the way that the experiential system is guided by basic human needs, and thus how both it, and indeed the ideas of Tversky and Kahneman, provide a window on to these motivations. Among those identified by Epstein that have clear relevance to the biases and heuristics considered below are the need for a stable and coherent set of beliefs about the world, for self-esteem, trusting relationships with others, and pleasurable feelings (see Epstein, 2014, Ch.3).

The other aspect hinted at is the pervasive presence of System 1 or the experiential system (to keep things simpler, from here on I will mostly use the language of System 1/2 rather than Epstein's terminology). Even concentrated thinking is prone to intrusions that will influence our reasoning in ways that we are unaware of: information more easily recalled because of its vivid nature rather than its frequency, for example; or stereotypes substituting for more careful categorical definitions; or the distorting effects that even mild emotional responses can have on our judgements.

1.2 HEURISTICS AND BIASES

System 2 is slow, and reasons in ways that critical thinking seeks to understand and improve. System 1 is quick and employs what are called **heuristics**. A heuristic is tool for quick decision-making; a rule of thumb that is applied to certain types of situation that, although lacking precision, makes better than chance judgements. Every day we encounter a vast range of circumstances that require decisions, and there is simply not the time to think all of them through in detail. In Daniel Kahneman's words, a heuristic 'substitutes an easier question for a difficult one' (2012, p.105). Deliberation is often not needed where things are routine and predictable, but some situations demand our effortful concentration. Ideally there would be the right balance between these types of decision so that we have the energy we need when we need it, but that is not the way it tends to be. Instead decisions are prompted regarding what we attend to, and this leaves a number of situations that would benefit from System 2 engagement in the hands of System 1. System 1 will then get them right sometimes, and not others, but either way it seems that we need to rely on it to take up the slack.

There are a couple of ways in which knowledge of heuristics and biases is important for enhancing critical thinking:

1. Understanding the various heuristics we use can improve our self-knowledge and motivate us to become less vulnerable to their negative influence. It can, for example, contribute to a form of self-awareness – referred to in Chapter 3 as **metacognition** – in which we are more alert to their likely presence in certain situations and therefore able to employ strategies for avoiding or mitigating their bias.
2. They can themselves be educated by the practice of critical thinking. We have, for example, an authority heuristic that inclines us towards those beliefs and decisions that are held and advocated by apparent experts on the matter at hand. However, our criteria for detecting expert authority in someone can be more or less crude, and learning about both what constitutes such authority, and the ways in which we tend to be tricked into seeing authority where it does not exist, can help educate

> our quick as well as our slow responses. It can, in other words, make our heuristics more intelligent.

Since they systematically privilege some potentially relevant information over other potentially relevant information, heuristics are by their nature biased ways of thinking. However, their bias can be justified to the extent that it has the practical advantages mentioned. The meaning of bias here is thus equivalent to 'tendency' or 'leaning'. There are cognitive biases, however, which do not have an obvious heuristic value. These can take the form of predictable mistakes in fast or slow reasoning that are no more than logical errors, or distortions of reality that are the product of deeper motivations. The meaning of bias in this case is more like a systematic error. Unfortunately, the language used to identify them is not particularly consistent, and nor is it always that clear when a particular bias has a heuristic function. For these reasons I will treat them in a similar fashion, and the remainder of this section is devoted to descriptions of some of the main heuristics and biases that help explain our vulnerability to fallacious arguments.

THE CONFIRMATION BIAS

The confirmation bias (sometimes referred to as the 'myside bias') is a strong cognitive default in which we seek out, attend to, and remember evidence and arguments that confirm our current beliefs at the expense of those that disconfirm them. Scientists know that in order to keep a theory alive, finding evidence which is consistent with it is only part of the story. We must also know what disconfirming evidence would look like, and seek this out as well. Everyday thinking, however, tends to neglect this requirement. Philosopher Bertrand Russell observed:

> If a man is offered a fact which goes against his instincts, he will scrutinise it closely, and unless the evidence is overwhelming, he will refuse to believe it. If, on the other hand, he is offered something which affords a reason for acting in accordance to his instincts, he will accept it even on the slightest evidence.[1]

In her empirical study of informal reasoning, Deanna Kuhn found that participants' previously expressed theories about why some

individuals drop out of school significantly limited their interpretation of new information on the topic. Despite being aware of a wider range of causes, new data was typically comprehended in a way that confirmed people's pre-existing beliefs ('it says pretty much the same thing that I think'). Kuhn says:

> Although such subjects have reflected, probably accurately, on the relation between one theme contained in the evidence and their own beliefs, they have imposed their own beliefs on the evidence to such an extent that it has prevented them from accurately representing what the evidence in fact consists of. (1991, p.231)

A lot has been written about echo chambers in recent years, and it is fairly straightforward to see how being overly exposed, through our news and social media preferences, to people who share our views can only exaggerate the effect of the confirmation bias (see also **social proof**, below).

Unfortunately, confirmation bias is not limited to informal reasoning – the academic reporting of research findings is prone to it as well. In theory though, avoiding it in this context is relatively simple. One method, especially common in medicine and other areas of applied science research, is known as a 'systematic review'. This puts in place rules for unbiased selection of previous findings on a subject, along with questions to guide their assessment. It is designed to avoid bias caused by non-rigorous searches or a lack of open-mindedness on the part of the researcher. Crucially, although the original research of the scientist is peer reviewed in academic journals, the review part of it (i.e., a summary of the findings to date) is not always subject to the same scrutiny. The systematic review approach insists on peer review of this aspect and thus requires transparency with respect to the scientist's method of selection and evaluation.[2]

In order to protect ourselves from the confirmation bias in everyday thinking we need to develop the habit of *looking for disconfirming evidence*. This is made all the harder, however, if we consider that our worldviews are themselves partly the product of the other biases and heuristics that will be discussed in this section. In other words, the confirmation bias will amplify beliefs that are already under the influence of a range of other distorting effects.

THE SELF-SERVING BIAS

The confirmation bias is very common and hard to eradicate for several reasons. One is that at its heart is the tendency towards, and deep-seated desire for, the preservation of a consistent worldview. Another is that it is supported by many of the other heuristics and biases discussed in this chapter. Their simplifying logic is based on coherence – making sense of new experiences in terms of existing frames of reference – and they are often under the influence of **motivated reasoning**. A predictable world is comforting, and as a point of pride we prefer our existing beliefs to be true rather than false or questionable. Motivated reasoning, then, points not just to the existence of biases, but to the work they are doing in making us feel better about ourselves and the way the world is. With this understanding in mind, Richard Paul sees critical thinking as a corrective to egocentric and sociocentric biases because:

> There are deep seated tendencies in the human mind to reason in order to maximise getting what we often unconsciously want. This typically involves using cognitive and affective processes to maintain self-serving or pleasant illusions, to rule out or unfairly undermine opposing ideas ... and otherwise to distort or "misinterpret" our experience to serve our own advantage. (1984b, p.5)

The 'pleasant illusions' Paul refers to have become known as the **self-serving bias** (Taylor and Brown, 1988): an automatic and systematic tendency to overestimate those features of ourselves and the world that are core to our sense of self-esteem and our motivation to succeed. These include our positive attributes (traits and abilities), the amount of control we have over events that affect us, and how bright our future will be in comparison to the futures of our peers. A generalised bias that serves these illusions sees us taking too much credit for successes and not enough responsibility for our failures. And in case you're wondering, we also tend to self-servingly see ourselves as less susceptible to cognitive biases than other people – what has been termed the 'bias blind spot' (Pronin, Lin, and Ross, 2002).

Not everyone is subject to these self-serving illusions, but it seems that the majority of us are. The implication of this research is that we are not particularly good at dealing with reality square on, and

in many respects it is an example of the capacity for self-deception that has historically been seen as basic to the human condition. One of the most comprehensive contemporary approaches to self-deception has been the psychotherapeutic analysis and categorisation of **ego-defences**. These are ways in which we distort reality in order to keep painful truths away from full consciousness, and one of the most common is **rationalisation**. To rationalise is to provide a reason for why something happened that (1) is not the real reason; (2) we unconsciously know is not the real reason; but (3) does the job of protecting us, at least temporarily, from the real reason. We protect ourselves because the truth makes us uncomfortable. Often others will know that we are rationalising because the explanation given is not that plausible, or they have insight into our motivations. In the moment, however, and perhaps for longer, the person rationalising cannot afford to see the truth, and so they allow themselves to be taken in by their contrivance.

Novels, dramas, and films are full of examples of rationalisations, and because they are so common in everyday life, they are usually quite recognisable. The plots of the UK comedy series *Peep Show* are almost entirely based on absurd situations caused by rationalisations; and in stark contrast to his seemingly ultra-realist partner, the character Martin Hart (played by Woody Harrelson) in the first series of *True Detective* likes to take comfort from them. At one of his lowest points, he justifies an extended affair with an attractive younger woman by claiming that it is a release from the pressures of work and therefore done for the benefit of his family. An almost saintly act of self-sacrifice I'm sure we can all agree.

COGNITIVE DISSONANCE, COMMITMENT, AND CONSISTENCY

In Leon Festinger and James Carlsmith's (1959) classic study of cognitive dissonance, participants in a fake laboratory experiment conducted a series of highly tedious tasks for a full hour. Once they had completed this they were asked, after a (fake) debrief, if they wouldn't mind stepping in for an absent worker. That worker's job is to encourage the next participant (a fellow student) to stick around because, despite what they had heard, the experiment is enjoyable. Some were paid $20 to tell the lie, some $1, and others nothing.

Most complied, and once the deed was done these participants were then asked to rate the actual interestingness of the experiment, and one group rated it much more highly than the others. You might think it was the $20 group – perhaps because their elevated mood caused by the not insubstantial payment had transferred to the experience as a whole – but it was the $1 group. The (now well-accepted) reasoning goes that telling a lie to a peer for the sake of $1 is typically incompatible with a person's self-image (as decent, honest, etc.); $20, on the other hand, appears to be an acceptable trade-off. Self-deception is thus enlisted by the $1 participants to preserve their integrity, but as it is a psychological stretch to deny they had accepted the money or told the lie, they instead subconsciously altered their opinion on how engaging the task was.

This is an example of **cognitive dissonance**; a term coined by psychologist Leon Festinger in the 1950s referring to the discomfort we feel when we become aware of an inconsistency among our beliefs, attitudes, and actions. Faced with this tension, ego-defensive strategies can be enlisted to help maintain a belief or attitude that is important to us (often one that is associated with our self-image). Rather than reappraise what's important, we instead reinterpret other features of the event so as to suppress the contradiction.

Cognitive dissonance is an aspect of a broad set of theories, now well established, that point to a profound need for self-consistency. Once we commit to something (a cause, a belief, a course of action) 'we will encounter personal and interpersonal pressures to behave consistently with that commitment' (Cialdini, 2007, p.57). 'Personal pressure' because most of us desire the character integration and rationality that consistency is so central to; 'interpersonal pressure' because our need to rely on people being true to their word makes us highly condemning of promise-breakers. For this reason, public declarations or pledges are extremely powerful techniques for ensuring that intentions are carried out.

The strength of this need for consistency is demonstrated by a range of persuasion techniques which induce compliance in people with respect to a trivial commitment, and then use this to leverage more significant, but apparently consistent, behaviours. Known as the 'foot-in-the-door' technique, if I answer 'yes' to the telesales person's trivial question 'Would you like a better deal on your phone?', I'm

now implicitly committed to the conversation (by being willing to give an answer), and explicitly committed to being open to hearing about the details of this 'better deal'.

A more serious example of where small commitments can land us is found in the Milgram experiments, discussed in Chapter 6. To avoid being trapped by the consistency heuristic we need to be careful what we commit to, both promises made and the views we hold. In Chapter 8 (Section 8.2) we will consider how absolutist statements and arguments can, through the need for consistency, force us to defend unacceptable or implausible positions.

RECIPROCATION

Rules of **reciprocation** – a fair balance between what we receive and what we give – are so important and pervasive among cultures that they are often regarded by anthropologists as a universal norm. Even if it is in the form of a 'thank you', a favour done merits something in return. Anyone who has not received the required murmur of gratitude for holding a door open for someone else, or the raised hand of acknowledgement from the driver of the car you have made way for in traffic, will know how sensitive we are to this norm.

In *Caveman Logic* (2009, p.49), Hank Davis tells the story of a non-religious friend whose wife underwent tests on symptoms that could have meant a terminal condition. When he found out the condition was treatable, he immediately headed for the hospital chapel and wrote 'thank you' in the message book. 'He did not write "Thank you God"' Davis recounts. 'He did not pray. He simply, as he put it to me, felt an irresistible urge to say "Thank you" … A gift had been received and some circuitry had been triggered in him.'

Persuasion specialists know that an unsolicited gift in a charity appeal envelope, or as you step into a shop, will increase the likelihood of you giving or buying. A variation of this tactic is known as the 'door-in-the-face' technique. Unlike 'foot-in-the-door', 'door-in-the-face' begins with a large request rather than a trivial one. A refusal is expected though, and once this happens, the guilt we irrationally but irresistibly feel at having to say no to someone makes us much more likely to accept their next (more reasonable) offer. As a naïve youth I was stopped in the street by someone who turned

out to be from a local cult. We chatted a while and then he asked if I wanted to buy one of the cult's publications, for £10. That wasn't going to happen, but he swiftly produced a pamphlet for 50p, and that was me, sold, and on my way.

Common to negotiations is what is known as a 'reciprocal concession'. Early on in *Twelve Angry Men* Juror 8's 'not guilty' vote means that a stalemate has been reached: none of the other jurors seem willing to talk about the case, but a unanimous verdict is needed. Juror 8 makes an offer: the jury will have another secret ballot, and if the outcome is still 11-1 he will change his vote to 'guilty', but if there's one more vote for 'not guilty' then they must agree to discuss the case further. From Juror 8's perspective the riskiness of this offer is plain to see, so the relatively small concession of agreeing to a ballot is hard for the rest of the jury to say no to.[3]

THE REPRESENTATIVENESS HEURISTIC

The **representativeness heuristic** attempts to provide quick answers to questions such as 'What's the probability of individual X belonging to group Y?', or 'What's the probability of event P being the cause of event Q?' It does this by accessing what a *typical* member of group Y, or a typical cause of Q is like. If one of the answers available is representative of the type in question, this is what is picked. So, if I enter a university laboratory to take part in an experiment and I am expecting to be met by two people – the experimenter and another volunteer – my representativeness heuristic will tell me that the person in the white lab coat is the one running the experiment. If asked whether someone whose hobby is fox hunting is more likely to be politically left- or right-wing this heuristic will guide me to answer 'right'. If rain is forecast in the UK it will lead me to conclude that it is more likely to be caused by a band of cloud moving in from the west rather than the east.

However, as helpful as this aid to quick thinking can be, it can also lead us to make some predictable mistakes. One concerns stereotypes – inaccurate generalisations about core features of a particular category. Representativeness only has a chance of providing the right answer if our idea of the typical group member or causal factor is accurate in the first place. The chimpanzee's fear

grimace, for example, looks a lot like a human smile, so short of the necessary specialist knowledge this heuristic might well lead us to conclude they are happy when quite the opposite is the case. (More will be said about stereotyping when we discuss generalisations in Chapter 8.)

The other kind of mistake caused by the representativeness heuristic is the overlooking of other critical questions we should be asking in certain situations. A famous example used by Tversky and Kahneman (1983) is the 'Linda Problem', which goes like this:

> Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student she was deeply concerned with issues of discrimination and social justice, and also participated in antinuclear demonstrations. Please [indicate] the most likely alternative:
>
> a) Linda is a bank teller
>
> b) Linda is a bank teller and is active in the feminist movement

The correct answer must be a) because b) contains the same information along with another claim about Linda, making is necessarily less likely. However, most of us immediately give answer b) because it typifies the kind of person Linda seems to be in a way that just being a bank teller very much does not. In this instance the representativeness heuristic causes us to overlook the conjunction rule (that the likelihood of X + Y is smaller than X by itself), and thus to commit what is known as the conjunction fallacy. Representativeness is also behind the common fallacy of base rate neglect.

BASE RATE NEGLECT

Base rate neglect is a type of reasoning error related to the representativeness heuristic that is distinct and widespread enough to warrant a separate entry. It refers to situations in which, when making a judgement about a particular person or event, we overlook relevant background information (it is sometimes known as 'background rate neglect'). Another famous example from Tversky and Kahneman involves 'Steve' who (with one or two adjustments to the original) we are told is:

> quite shy, not especially sociable, but with a few close friends. He has a need for order and structure and a passion for detail. (1974, p.1124)

Asked if, for example, Steve is more likely to be a librarian or a salesperson most of us will assume the former. However, this overlooks a) the fact that there are many more salespeople than librarians, and b) that there is nothing in this description of Steve that precludes him from being a salesperson. Our representativeness heuristic causes us to jump to the conclusion that he is a librarian because his personality is what we see as typical (or stereotypical) of this profession. In doing this, though, we neglect other considerations that are relevant to answering the question.

Christmas Eve in 2021, listening to the morning news I heard the argument that there are more people in hospital with Covid who have had the vaccination than who haven't, therefore the vaccine does not work. It was correctly called out as base rate neglect (though not in those words); in simple terms, no vaccine will fully protect, so if a large enough proportion of the population have been vaccinated then this is what we would expect. For example, if 80% of people have been vaccinated and it provides 70% protection from serious symptoms, and the other 20% have an 80% chance of serious symptoms, then out of 100 people in hospital with Covid there will be 24 who have been vaccinated and 16 who have not.

Base rate neglect describes the error of taking a statistic or other piece of information out of its comparative context in such a way that it makes it look more significant than it is. We neglect to ask the critical question 'What is the norm in this situation?', and instead make a judgement based on what is generally representative of high, low, good, bad, and so on. A 100% price rise appears dramatic, and as with the devastating increase in wholesale gas prices in 2022, normally is. However, a 100% rise in the price of lollipops from 10p to 20p (assuming your entire diet isn't based on them) is probably not a cause for concern because the base rate is so low.

Base rate neglect is quite a common error, and to an extent we are used to people being challenged on it. In the middle of the 2017–18 Premier League season Mark Hughes was sacked by struggling Stoke City. Hughes – a proven manager at this level who had led the club well for years – wasn't happy and made the argument (in the form of a rhetorical question) 'Who else will they get?' He meant that the meagre availability of qualified options had not be taken into consideration by the board. Good managers are hard to find and Stoke

were lucky to have him, and it turned out he was probably right. Stoke were even worse under Hughes's replacement and ended up relegated.

Another twist on base rates is the fallacy of suggesting false background rates in order to minimise or normalise a situation that is in fact *not* trivial or normal at all. In a speech after the Charleston church shooting in June 2015, President Obama addressed just this fallacy:

> Let's be clear: at some point, we as a country will have to reckon with the fact that this type of mass violence does not happen in other advanced countries ... with this kind of frequency.[4]

THE AVAILABILITY HEURISTIC

The **availability heuristic** (also named and studied by Tversky and Kahneman) judges the likelihood of an occurrence on how readily it comes to mind. Availability is a fairly reliable measure of likelihood because common occurrences are often those that present themselves to us with greater ease. Communicating the reality, seriousness, and urgency of climate change is challenging for several reasons, including its relative invisibility among our everyday affairs. However, local weather patterns, floods, and wildfires increase its availability because they are not just visible, but vivid, dramatic, and happening now, and thus provoke a more engaged response. Communicators in this field are well aware of the importance of using these events to increase and maintain the salience of climate change in government policy and public discourse.[5]

However, the availability heuristic can also predict certain kinds of mistakes. Early research demonstrated the biasing effect of newsworthiness, vividness, and emotional impact on the perceived likelihood of lethal events such as accidents or tornadoes (Slovic, 2000), and contemporary literature connects it with exaggerated concerns about, among other things, vaccines and terrorist attacks.[6]

A piece of advice given to young medics making diagnoses is 'If you hear hoof beats, think horses not zebras.' More vivid and dramatic causes will more easily come to mind, but these will not be representative of their relative likelihood in comparison to more mundane

explanations. In another example, an Ipsos survey in 2017 asked the UK public to estimate the proportion of the UK that is 'densely built up'. The mean response was 47%, but the real figure is 0.1% – a startling difference. One of Ipsos's senior researchers suggested that because the majority of the population live or work in towns and cities this causes a skewed 'mental image of the country', [7] and other commentators pointed to media representations and a pervasive narrative of Britain as overcrowded or despoiled by industrialisation.[8] Direct and indirect experience is thus typically one of urban life, and this perception has a grossly exaggerated influence when people are asked what the UK is like as a whole. It turns out that not only is this a clear example of the availability heuristic's potential to mislead, it also has consequences. As commentators acknowledged at the time, it will affect public attitudes on issues such as housing policy and agricultural practices.

ANCHORING AND THE CONTRAST EFFECT

Anchoring and the **contrast effect** are examples of how the contextualizing of information can influence our perceptions and interpretations. Anchoring happens when our judgement of a quantity (or other value) is biased by an initial piece of information. Asked, for example, to estimate the exact length of the Mississippi River (which is around 2,300 miles), experimental participants who had previously been asked if it was 'more or less than 200 miles long' guessed on average that it was around 1000 miles. By comparison, the average estimate of participants who had previously been asked if it was 'more or less than 20,000 miles long' was much larger – around 8,000 miles (McElroy and Dowd, 2007).

Anchoring is known to be a pervasive and powerful phenomenon in a range of real-life as well as laboratory settings; so much so that one of the few books written by the acclaimed psychology of persuasion academic and practitioner Robert Cialdini, is almost entirely devoted to it (see Cialdini, 2017). It is most effective in situations where attention is lower and people have limited knowledge of the subject, but it can influence experts' judgements as well. In negotiations, for example, there can be an advantage in making the first move because even a demand expected to be excessive will have a

disproportionate influence over the range of prices (or whatever is at stake) considered to be acceptable. In a different kind of case, when two academics grade a student's assignment a more objective assessment is made if the second marker is ignorant of the first marker's grade.

The anchoring effect works with both System 1 and System 2 decision-making. In the former case it is automatically interpreted as a hint towards what the right answer might be; and with the latter its presence invites the confirmation bias. Subsequent deliberations are skewed towards this anchor, prioritising reasons that confirm its broad accuracy. It is also a good example of how the two systems can interact. As concentrated thinking goes on in the foreground, behind the scenes System 1 is searching for answers that are compatible with the anchor, and these answers are more easily retrieved.

As with the example of academic second marking, in some situations we can choose to remain ignorant of possible anchors to avoid their influence. Often, however, this is not possible. The exaggerated influence of first impressions in social encounters – discussed in Chapters 6 and 7 under the **halo effect** – is also an example of anchoring and is impossible to avoid. To reduce its effects, general advice such as remembering its potency, being vigilant of System 1 intrusions into our deliberations, seeking the views of trusted others, avoiding time constraints in decision-making, or undertaking prior research where this is appropriate (as in formal negotiations) might help. Overall though, there is a worrying lack of optimism from researchers in this regard – it is an immensely pervasive and powerful bias.

The contrast effect refers to the influence of nearby comparators with contrasting qualities. Any parking ticket I have received in the UK first declares that you must pay a substantial fine (say, £70), but then goes on to state that if you pay within two weeks this will be reduced to half that amount. Thirty-five pounds is still a lot of money to pay for overrunning a meter by ten minutes, but it looks much more reasonable when you have just been threatened with double that amount. Another example comes from the late rock singer Mark Lanegan's autobiography *Sing Backwards and Weep*. He talks about how much he disliked his name when he was young, but was able to come to terms with it when he found out that he was almost called Lance.

The contrast effect is commonly used as a sales and fundraising tactic ('If you cannot afford £100, could you then donate £10?'), but it has a psychologically protective function as well. In a study of the coping mechanisms of women diagnosed with breast cancer, a downward comparison was typically found to be employed. For example, those requiring a lumpectomy would be thankful they were not like those facing a mastectomy; and those needing a mastectomy in later life could at least be grateful they were not one of the younger women who required this treatment.[9] Finding a perspective from which we can regard our situation as better than it might be is a means by which the contrast effect can help us come to terms with difficult or tragic circumstances. In his address to an interfaith vigil in Newtown after the Sandy Hook shooting in 2012, President Obama began by quoting from scripture which emphasises the temporary nature of our Earthly lives in comparison to God's eternal perspective. Under the circumstances it is hard to see what else he could have offered by way of consolation.

AUTHORITY, LIKEABILITY, AND IDENTITY

When making quick judgements (in comparison to slow ones) we are significantly more influenced by characteristics of the people presenting arguments. In *The Art of Rhetoric*, Aristotle suggests three means of persuasion: (1) *pathos*, referring to the emotions aroused in the audience; (2) *logos*, meaning the speaker's arguments; and (3) *ethos*, the good character (or the apparent good character) of the speaker. In recent research three features of the speaker's (or writer's) character have been shown to be especially persuasive: the extent to which we perceive them as an authority, how likeable we find them, and the extent to which we identify with them.

Forms of authority will be considered at length in Chapters 6 and 7, but to illustrate the heuristic power of perceived expert authority, consider an experiment investigating the effects of mood on how we engage with arguments. It is known that being in a happy mood will incline us to System 1 thinking more than a neutral mood will. In this experiment a happy mood was induced in half of the participants (by rewarding them with money for a prior task), and the other half remained in a neutral state. Everyone was then asked to listen

to a speech about acid rain and to evaluate it in terms of how it had changed their attitude towards the topic. Half the participants listen to a speech containing strong arguments, half to one containing weak arguments. Also, half were told that the speech had been written by an expert, the rest were told it had been written by a non-expert. The results showed that not only was there far less discrimination between strong and weak arguments by the happy group, but that their beliefs about expertise had a far greater influence of their assessment of the speeches. For the neutral group, expert source had no significant impact on how arguments were rated, whereas for the happy group it led to a much higher reported attitude change (Worth and Mackie, 1987).

The social psychology literature on likeability indicates a number of factors that will increase our chances of liking someone, including how physically attractive they are, their ability to make us laugh, how much they like *us*, and perceived similarities. The latter blurs with a third category of heuristic concerning message source – identity. Short of time and information about a product or course of action, if it is being promoted or modelled by someone who we identify with – share a sense of place, common beliefs, and so on – this can serve as a shortcut to deciding in its favour. If it works for them, it might work for me too. Identity is basic to the idea of **referent power** and plays a significant role in establishing trust. More will be said about trust, referent power, and the role of authority, likeability, and identity in argumentation and persuasion in Chapters 6 and 7.

SOCIAL PROOF

I used to hitchhike a lot in my twenties. Often I would be the only person standing at a service station or a roundabout thumbing a lift, but when there were other hitchers waiting as well I noticed how, when a driver stopped to pick up one of us, other drivers would very quickly stop as well. We could all be waiting for an hour with no one taking the bait, then two or three cars would stop in rapid succession. My suspicion was that **social proof** was the reason. Under conditions of uncertainty, such as what to order from an unfamiliar curry house, what an acceptable volume of speech is in a particular public library, or indeed the appropriateness and safeness of picking up

hitchers in modern Britain, the behaviour of other people becomes an important (if you'll excuse the pun) rule of thumb. Many of us will be aware of the influence of customer reviews – and sellers' practices of manipulating these – when buying things online. Similarly, Spotify can't directly tell you what's worth listening to by a particular artist, but it always knows what's popular.

As some of these examples demonstrate, basing judgements on social proof can be significantly unreliable. In the phenomenon known as '**groupthink**' (Janis, 1982), social proof contributes to a range of problems affecting collective decision-making. Groupthink describes a set of processes of social influence that cause a group of otherwise rational and intelligent people to make very poor decisions. Irving Janis's theory was based upon mid-twentieth-century US foreign policy disasters such as the Bay of Pigs fiasco in Cuba, and the escalation of the Vietnam War, but aspects of his detailed analyses can be readily applied to group or committee decision-making in a wide array of contexts. It is easy to see, for example, how the confirmation bias can be exaggerated in group deliberations. If certain information and points of view are shared by the majority of members, these will tend to gain more traction in discussion at the expense of views held only by lone individuals. It could be the case that, put together, these individually held views amount to a strong counterargument, but a collective confirmation bias obscures this potential.

Of particular relevance to social proof is the phenomenon of **pluralistic ignorance**. Imagine you are sitting on a high-powered committee that needs to decide on an important and urgent matter, and that you are feeling unsure about a piece of information, an argument, or a decision about to be made. If you are reluctant to admit your ignorance, or to give the appearance of lacking conviction, then you will quite likely (whilst maintaining a calm demeanour) look to similar minded colleagues and try to ascertain their position on the matter. You scan the body language of several, and since they show no obvious signs of dissent, you go with what seems to be the majority view. What, though, if they are feeling the same way and looking to you and the others for the same signs? Under these conditions, ignorance is mutually interpreted as assent to whatever direction the deliberations are heading in. The result of these and other predictors of groupthink (such as the presence of a dominant group leader

intolerant of dissent, a strong sense of identity or similarity among group members, or a crisis situation in which emotions are running high) can be an inadequate evaluation of alternative courses of action and more than likely a poor decision.

1.3 FRAMING

A generalised idea that can be applied to most examples of persuasive communication is **framing**. The basic meaning of framing is captured by expressions like 'frame of reference', or 'frame of mind'. In communication it refers to a way of looking at things, of putting an 'angle' or 'spin' on a particular issue. In essence it involves emphasising some aspects of the issue at the expense of others.

Whereas some might say that my Uncle Vance is an alcoholic, others would say he's a 'party animal'. Views on the 'partygate' scandal that contributed to Boris Johnson's declining credibility as UK prime minister rested in part on whether boozy gatherings in Downing Street during Covid lockdowns could be convincingly framed as 'work meetings'. When Vladimir Putin characterised Russia's actions toward Ukraine in February 2022 as a 'special military operation' (rather than an invasion or a war) it was part of a frame that presented the conflict as justified self-defence in the face of NATO expansionism (rather than as unprovoked aggression).

Frames are selected by communicators to enhance the effectiveness of messages, but the filters we automatically apply to information also function as frames. All heuristics and biases frame situations because they are systematically selective in what they lead us to take from them. As we have seen, there are many ways communicators can compose messages to take advantage of this.

There are two purposes, broadly speaking, to which framing is put:

1. It can serve the audience's needs by helping to make sense of something new by comparing it with something the audience is currently familiar with; a basic educational process. In Naomi Klein's 2014 book, *This Changes Everything*, [10] analogies with the anti-slavery, women's, and civil rights movements form a central argument for why rapid and radical change to the economic system that sustains climate change is in fact

achievable. Alternatively, framing can provide a way of coping with a situation. For example, I've always felt that it is healthier for students to see exams as a 'challenge' rather than something to fear or just to 'get out of the way'. (For similar examples, see the **contrast effect**, above.)

2. Or framing serves the communicator's needs by deliberately obscuring aspects of reality in order to gain an audience's approval. This is how propaganda operates: 'successful ideologies,' says philosopher Mary Midgeley, 'commonly make their impact by hammering at a single image, or small group of images, which expresses one side of the truth so vividly that they fill the reader's imagination, making it hard to remember that there is any other'.[11]

Things become more interesting when both sets of needs are relevant. In his *Letter from Birmingham Jail*, Martin Luther King, Jr. is attempting to convince an audience, otherwise sympathetic to his cause, of the value of non-violent civil disobedience. He has been accused of being an 'extremist', a label he at first rejects, but then accepts with a caveat. He lists various radicals and lawbreakers from history and the Bible – including Jesus, Paul, Lincoln, and Jefferson – who are foundational to American values. He then reframes the issue:

> The question is not whether we will be extremist, but what kind of extremists we will be.[12]

He has selected his argument and the examples he uses with great care; these are extremists for 'love' rather than extremists for 'hate'. It is by no means a balanced picture, but at the same time it will provide a potentially helpful angle for an educated audience to engage with his argument. Unlike propaganda, it is part of a respectful dialogue.

As this example also illustrates, an important method of framing is the use of figurative language. Metaphors, analogies, and allegories try to explain or illuminate some aspect of the world by comparing it with something recognisable to an audience. Arguments from analogy work in a similar way, and this will be the subject matter of Chapter 9.

1.4 CONCLUSION: ARGUMENT AND RHETORIC

Rhetoric, as explained in the opening chapter, is the art of persuasive communication. Arguments also aim to persuade, but a good way to distinguish between the two is that whereas arguments appeal to System 2, rhetoric appeals to System 1. As we have seen though, arguments were one of Aristotle's three routes to persuasion, and most rhetorical communication (such as rousing political speeches and sales pitches) does involve arguments. However, the quality of the rhetoric is assessed on how persuasive it is, rather than how strong the arguments are, and weak arguments are not discouraged so long as the intended audience is convinced by them. It is for this reason that it is important to learn about fallacies (weak arguments that have the appearance of being strong), and to understand our cognitive biases and shortcuts as we have been doing in this chapter. These two sets of information will help protect us from forms of persuasive communication that keep System 2 asleep in the back.

It should also be recognised that rarely (if ever) can argumentation be entirely free from rhetoric; from what I will call '**System 1 candy**'. Features of its content or source will be persuasive in ways that do not directly relate to the essence of the point being made, and so on all occasions we need to maintain vigilance. The next chapter considers the unavoidable presence of feelings (emotion, mood, affect) in argumentation, and the ways in which these bias our judgements. In the previous section, on framing, we reviewed the importance of Martin Luther King, Jr.'s choice of analogies. The part on authority, likeability, and identity is a reminder that all arguments have a source and a medium, and these will rarely be persuasively neutral (see, as well, the 'halo' and 'horn' effects, to be discussed in Chapter 7).

When we are practicing argumentation rather than rhetoric it would be wrong to use these features of arguments to gain an advantage. An awareness of them, however, can be used more legitimately if it means the difference between someone listening to your argument and someone switching off, or being open to it rather than remaining antithetical.

EXERCISES

1. From what you have read in this chapter, draw up a list of things we could do to protect ourselves from the negative effects of heuristics and biases. This will include ways to prevent poor decision-making in groups; protection from those who will deliberately deploy persuasion techniques to influence us; and of course protection from our own **motivated reasoning**. Some recommendations have been explicitly included in the chapter and some are implied, but there will be others that you will be able to think of yourselves based on the chapter's content.
2. A good way to gain a better understanding of these biases and how they operate is to explore their use in contextualized examples of persuasive communication. Several are mentioned in this chapter, including speeches by Martin Luther King, Jr. and Barak Obama. These fall under the neutral definition of rhetoric, but *Twelve Angry Men* (see this book's Introduction) is full of instances of how dangerous or unconstructive these biases can be. Other examples can be found across subsequent chapters, but it is also straightforward enough – and advantageous since you can choose ones that are especially relevant to your situation – to find your own.

FURTHER READING

- Further investigation of biases and heuristics can be guided by the in-text references in this chapter; most notably Kahneman (2012), whose focus is on judgement and decision-making; and Cialdini (2007, 2017) who explores how heuristics are exploited by professional persuaders. For methods of debiasing see Larrick (2004), and for an evaluation of dual-process theories of reasoning see Osman (2004, 2013), and Evans and Stanovich (2013).
- For a review of the confirmation bias see Nickerson (1998). A lot of articles have now been written that connect confirmation bias and online echo chambers, including Modgil et al. (2021).

- For a review of the anchoring effect see Furnham and Boo (2011); and there's an excellent discussion of it in Kahneman (2012, Ch.11).
- For an informative analysis of the components of groupthink see Baron (2005).
- Largely for reasons of space the 'exponential growth bias' is not covered in this book (it also has fewer connections to other biases, dispositions, and fallacies than the ones I have included). However, and not least because it helps explain responses to the Covid pandemic, it is worth exploring. There are quite a few academic articles linking the two topics, and a good introduction can be found in Steven Pinker's book *Rationality* (2021, pp.10–12).

NOTES

1 *Roads to Freedom* (Routledge, 1996), p.116.
2 There is a lot of helpful literature in this area, but one good guide to conducting systematic reviews in healthcare see Khan, K.S., Kunz, R., Kleijnen, J., and Antes, G. (2003) Five steps to conducting a systematic review. *Journal of the royal society of medicine*, 96(3), 118–21.
3 For an excellent (and entertaining) example of negotiation skills, including the art of concession-making, see *Better Call Saul*, Season 1, ep.2 (approx. 18 minutes in, but best to watch from the start to appreciate what's going on).
4 For a transcript see www.theguardian.com/us-news/2015/jun/18/obama-on-charleston-ive-had-to-make-statements-like-this-too-many-times. Joe Biden made a similar point after the Robb Elementary shooting in Texas in May 2022.
5 See, for example, https://climateoutreach.org/reports/ipcc-communications-handbook/
6 I won't cite specific sources, but there are many and they are easy to find in an academic search engine.
7 www.ipsos.com/en-uk/public-hugely-overestimate-how-much-land-uk-densely-built
8 See, for example, www.bbc.co.uk/news/uk-42554635
9 Discussed in Brown (1986), pp.165–7.
10 Klein, N. *This Changes Everything* (Penguin, 2014).
11 *Wisdom, Information and Wonder* (London: Routledge, 1991), p.48.
12 Available at: www.africa.upenn.edu/Articles_Gen/Letter_Birmingham.html

2

CRITICAL THINKING AND EMOTIONS

> I think I am smart unless I am really, really in love, and then I am ridiculously stupid. (Taylor Swift, *The Guardian*, 30.5.15)

Emotions are typically seen as being irrational or non-rational features of our psychology; as impediments to accurate perceptions and objective judgements. There is a significant amount of truth in this, but perhaps not as much as we are inclined to think. In contemporary research emotions are often viewed as forms of heuristics, assisting our more immediate judgements, and they can also be viewed as 'intelligent' in a deeper sense as well.

This chapter explores the relationship between emotions and critical thinking. 'Appeal to emotion' as a category of argument, or as a type of fallacy, is sometimes discussed in textbooks. I will work towards a discussion of this idea, but prior to that take a wider look at the relationship between emotion and knowledge. Specifically, I will (1) offer a broad account of the nature of emotions; and (2) consider the relationship between emotions and rationality. Then, after providing some tools for assessing arguments dealing with emotive subject matter, I will consider the influence of emotions on dialogues.

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2.1 THE NATURE OF EMOTIONS

Emotions are central to understanding human motivation and behaviour. They are basic to how we encounter ourselves and the world and thus inevitably have an influence on thinking and decision-making. They are also complex and conceptually slippery, distinguishable to an extent from desires and other types of feeling such as moods and sensations, but also tied in interesting ways to these and other features of our psychology. Although a book like this one cannot possibly do justice to the many ways in which an investigation of emotions is important for how we understand ourselves and others, I can at least endorse psychologist Richard Lazarus's view that:

> From an emotional reaction we can learn much about what a person has at stake in the encounter with the environment or in life in general, how that person interprets self and world, and how harms, threats and challenges are coped with. No other concept in psychology is as richly revealing of the way an individual relates to life and to the specifics of the physical and social environment. (1991, p.7)

Quite often they are unpleasant to experience, but they always signify drama – a need is or is not being met, and thus desire, value, and purpose are always in tow and encoded in these complex feelings. The account of emotions I provide in this section should largely align with our everyday experience of them, and is supported by extensive psychological and philosophical research in this area. The components of an emotional response have been unpacked in terms of cognitive, physiological, and expressive aspects, along with associated action-tendencies, but for our purposes vital aspects can be categorised under cognition and feeling.

COGNITION

Emotions are tied to beliefs about the world: to experience fear we must interpret a situation as threatening; to feel disgust, what is before us is repellent in some way; pride results from a personally relevant achievement; and so on. Crucially they are beliefs that matter to us: something has happened, and this is appraised to be positive or negative in some way. Anger, for instance, is generally speaking caused by:

(1) something frustrating us; and (2) this being perceived as unfair or unjust. So, if someone at work gets an undeserved promotion, or when we witness or read about a legal or political injustice, some degree of anger is expected. There is an intimate connection between emotions and desires (and thus values): if we did not care then certain things happening or not would not bother us and there would be no emotional response. Emotions, then, imply judgements, and as will be discussed in upcoming sections, these can be of the rapid System 1 variety, or the result of slower processing.

Along these lines relatively simple and recognisable situations can be formulated for all emotions. And since responses come in degrees of intensity, this we take to be related to the extent to which the occurrence affects the person (e.g., tripping on a paving stone normally causes less embarrassment than forgetting your uncle's new girlfriend's name who you've met twice before). Lastly, notice that the cognitive element of emotions says nothing about what is in fact going on in the world, only what we believe to be going on. As psychotherapists well know, to understand the logic of someone's emotional response we need to understand what they care about and how they interpret a situation in light of these cares.

FEELING

Few would dispute that emotions are feeling states, but there is much more debate about what kind of feeling this is. Many emotions are accompanied by felt physiological changes (e.g., body temperature, the coursing of adrenalin), but when we talk about feeling a certain way towards something, we are also referring to a quality of the thoughts that we have towards the object of our emotion. If I am experiencing guilt because I still haven't returned my friend Sacha's call this is more than a simple judgement of how I have wronged them, it is a distinctive feeling that is inextricably linked to such a judgement.

Moods share qualities of the feeling component of an emotion, but usually without the cognitive aspect – there is no specific thing that is their focus (at least not consciously). Affect is somewhat ill-defined, but also important. Very broadly it refers to a wide range of feelings – including sensations, moods, desires, and emotions – that

are experienced either positively or negatively, and are thus motivating, and involve some degree of arousal (sensory alertness).

Seymour Epstein (2014, Ch.4) provides two further categories of feeling: 'unresolved feeling states' and 'vibes'. The former are 'precursors to emotions'; states of arousal such as anxiety or excitement that are not currently about anything but prepare us to react emotionally should circumstances change. Vibes are more subtle and easy to ignore, but tuning into them can provide important guidance; a feeling – that a certain course of action is right or wrong, say – that is the product of familiarity and expertise. In that moment it holds information ('intuitive knowledge') that has not so far been consciously articulated. Where an urgent response is called for this might be acted on immediately, but in other circumstances it helps steer our deliberations.

2.2 EMOTION AND RATIONALITY

One question that is posed by philosophers is 'Are emotions rational?' A common answer is that they are rational if they are appropriate and proportional responses to what has happened (or is believed to have happened). There are plenty of occasions when we regard an emotional response as rationally justified, or where it would be irrational for a person not to feel a certain way. About grief, philosopher Martha Nussbaum says,

> if a person believes that X is the most important person in her life and X has just died, she will feel grief. If she does not, this is because in some sense she doesn't fully comprehend or has not taken in or is repressing these facts. (1990, p. 41)

In such cases the emotional response expresses, or contains, the nature and significance of the event – there has indeed been a loss and it is a terrible one for the person in question. The grief that is felt is precisely this realisation, and in this sense this grief embodies the truth.

In a situation where what we thought to be the case turns out not to be (e.g., the dog isn't missing after all, but is found in a secluded corner of the garden having a quiet moment with its bone), then to the extent that emotions are rational, the emotion would go away, perhaps replaced by a different one (such as relief). Emotions, then,

can be said to be rational when they correspond with our desires and beliefs.

This line of thought can, however, lead to the claim that it is not the emotion per se that is irrational, but the belief that causes it. As philosopher Robert Solomon once put it: 'emotions are not irrational; people are irrational' (2003, p.235). Emotions only appear irrational because we fail to understand what the person is thinking, and often what we think – as the previous chapter helps to demonstrate – is irrational. For Solomon, the emotions we feel when we are being irrational simply correspond to these biases, or other erroneous beliefs. So, when a small failure is pointed out to a narcissist it is his false belief that he is generally superior to others that causes his excessively strong reaction of anger. However, the claim here is that the emotion – the strong reaction – is not the culprit, but rather the distorted belief which underpins it. Put in this way, the emotion is neither rational nor irrational, but better understood as non-rational.

This is of immense importance, but it is not the end of the story; emotions have a reputation for being irrational because emotions and beliefs do not always correspond. Consider the 'red mist' of uncontrolled rage, phobias, obsessive jealousy, or the dizzily disproportionate rollercoaster of romantic love. Our emotions appear to make us think and do bizarre things. Very strong emotions can lead to what has been called 'cognitive incapacitation'; a situation in which we are unable to think clearly. Strong emotions in particular are associated with:

- Exaggerated (disproportionate) thoughts and behaviour, such as our perceptions of the other as 'perfect' or 'the one' when under the spell of romantic love. In this chapter's epigraph Taylor Swift appears to concur. Attention tends to be narrowly focussed and judgements tend to be black and white.
- Inappropriate or muddled thoughts and behaviour.

We find an example of this second type of distortion in a scene from Rose Tremain's novel *Music and Silence*. Set in 1629, landowner George Middleton is throwing a New Year's Eve party, and he's a very happy and relieved man. He is deeply in love with his fiancée Charlotte, and has recently recovered, against the odds, from an operation to remove gall stones. In the kitchen the waiting coachmen,

now sloshed, have consumed a batch of the guests' mince pies, and George

> knows nothing of all this, but he would nevertheless approve it, because there is nothing, on this night, of which he is able to disapprove. Even those neighbours of whom he is not particularly fond. When he looks at them hopping in a jig or endeavouring to bow gracefully in a minuet his heart forgives them their futile and irritating habits, their habitual disputatiousness, their past attempts to marry him to their ugly daughters. Indeed, he finds that he *loves* them. He even loves their *daughters*. He and Charlotte pass from table to table and hands reach out to them, and they seize these hands with an unconcealed show of affection. '[Charlotte]' says George, 'you have enabled me to adore the world!' [1],[2]

Recall Solomon's view that 'emotions are not irrational; people are irrational'. Should we say that George Middleton is irrational to want to survive surgery and to marry Charlotte; or to feel relieved after the operation? If not, then what's irrational? Presumably it is the effects of the emotion itself; an example of what is called 'transferral of affect' where the feeling expands beyond its origins and attaches itself to irrelevant and inappropriate objects and events.

Less well known but of great importance for critical thinking is that mild emotions and other affective states have distorting effects as well. Experiments have shown that a person's emotional frame of mind will affect their subsequent judgements. For example, if individuals are induced into a positive or negative mood and then asked to make judgements on crime or political figures, their mood will condition the judgements they make.[3] This effect is sometimes referred to as emotional framing, and is a valuable persuasion technique (for more on framing in general, see Section 1.3). If a speechmaker finds an angle on a topic that will predictably induce, say, fear in their audience (e.g., a terrorist threat), they can then use the resulting mood to elicit the response they want to other issues that would be less persuasive were the audience not already in an anxious frame of mind. For example, in many countries immigration is a controversial topic that is associated with a range of emotions, including anger, fear, pride, and compassion. An anti-immigration politician will want to play on anger and fear, and will gain an advantage if they can introduce the topic to an appropriately primed audience. To put it another way, emotions and moods embody a **confirmation**

bias; when under their influence we are, often quite unconsciously, inclined to seek out features of our surroundings that confirm our feelings.

EMOTIONS AS HEURISTICS

If emotions cause irrationality in the cognitive sense explained above, they can also assist more habitual forms of decision-making by serving as heuristics (referred to sometimes as the '**affect heuristic**'); as speedy intermediaries between what goes on and what we need and want. As will be discussed at greater length in the next section, System 1 processing and emotional responses are closely linked. Instinct and conditioning are triggered by certain happenings and emotions embody this information.

In recent decades Antonio Damasio's (2000) 'somatic marker' theory has been highly influential. The idea is that our initial response to many situations is an emotional one – broadly positive or negative – and this 'feeling of what happened' then serves to guide our attention and the judgements we make. Whereas in the last section this was viewed as problematically biased and something which leaves us vulnerable to manipulation, Damasio's position is that, because they are hard to ignore, they help to capture and then focus our attention. In this sense they become a vital component of rational action. I am in the kitchen cooking when I hear my youngest son screaming in the garden. My fear-based response is immediate; I drop the spoon and I'm out the back door to see what's going on. When I see that he's not hurt my antenna quickly switches and I see his older brother chasing him with something gruesome he has found in the woodshed. Previous experience has mellowed any irritation towards my son's extreme reactions, and instead empathy is triggered and suitably understanding words and actions follow.

Notice a couple of things about this, quite typical, situation. First, I do not have a great deal of control over my thoughts and actions, which is fine when the range of causes and effects encountered are familiar, but not so helpful when a situation has quite a few novel features. Second, and in accordance is a basic theme of this book, it is important to appreciate the kinds of situations in which emotions as heuristics are valuable guides to behaviour, and those in which

they are less so. Discussing the heuristic function of feelings in what is generally an excellent textbook on emotions Oatley, Keltner, and Jenkins use this example:

> many of the judgements we make are often too complex to review all the relevant evidence. For instance, a comprehensive answer to the question of how satisfied you are with your political leader might lead you to think about current environmental policy, the state of health care, unemployment and inflation rates, what is being done about global warming ... Given this complexity of so many important judgements, we often rely on a simpler assessment based on our current feeling, asking ourselves 'How do I currently feel about this person?' (2006, p.265)

It is quite possible that what they have in mind here is someone being asked this question in a street survey, in which case one's feelings used as a heuristic might be a reasonable basis for a response. In other circumstances, however – such as a focus group or when deciding who to vote for – feelings should be applied far more cautiously. For instance, the general warmth I might feel towards the erstwhile leader of a particular Scottish political party can function as a starting point for investigating what is behind this, and the same goes for my antipathy towards other leaders and parties. The heuristic becomes a hypothesis that can lead me to both look closely at track records and policy promises, and also at my own prejudices. Overall though, if I am willing to fully investigate voting options then I need to be dealing with the evidence on its own terms rather than relying on a system designed to rapidly find coherence with existing beliefs and attitudes.

The affect heuristic uses our feelings about a situation to guide decision-making, and very much captures this function of emotion and other forms of affect. In Paul Slovic et al.'s words it:

> appears at once both wondrous and frightening: wondrous in its speed, and subtlety, and sophistication, and its ability to 'lubricate reason'; frightening in its dependency upon context and experience, allowing us to be led astray or manipulated – inadvertently or intentionally – silently and invisibly. (2007, p.1349)

Switching to System 2 processing is clearly a capacity we have, but we are also able to educate our heuristics so that quick responses to situations are better informed. This is usually not straightforward – coming

to appreciate something intellectually rarely directly translates into a long-term change in our feelings about it (or other heuristic responses) without some further work involved – but it is certainly achievable.

To help explain how I will return to the ideas of Seymour Epstein, a psychologist responsible for a more wide-ranging dual process theory than Tversky and Kahneman's, encompassing emotional intelligence and links to mental health and personality theory. Epstein, as we saw in the previous chapter, refers to the **experiential system** and the **rational system**. The broad idea is similar to the System 1/System 2 distinction – the experiential mind is fast and automatic, the rational mind slow and deliberate – but several more characteristics of the experiential system are explored in Epstein's model. A core one is that it is 'emotionally driven' (2014, p.8). This means: (1) that it seeks emotions and other types of affect that feel good; and (2) that it relies on them as sources of knowledge to help navigate the world. Emotion, and affect more generally, is the primary heuristic of the experiential system, but there is an important added emphasis from Epstein on how ignorant we can be of its source, presence, and effects. For example, emotions that are unpleasant to experience or that signal something that our **ego-defences** are protecting us from, can be supressed or misinterpreted. The result is an intrusion into our reflective thought that can be especially confusing and damaging to our judgements (ibid, Ch.5).

A short case study can be taken from rapper and journalist Loki/Darren McGarvey's autobiographical social analysis *Poverty Safari* (2017). The book takes its title from his response to a proposed government-funded research project in which the artist and activist Ellie Harrison was to spend a year not travelling outside of Glasgow to assess how a local focus, with its reduced carbon footprint, would affect her well-being and her ability to do her job. The project was named the 'Glasgow Effect' (after a study on Glasgow's notoriously low life expectancy) and represented visually by a bag of chips. Partly because of poor communication, some Glaswegians took offence to the project, and McGarvey sought to make sense of this upset. He explained it in terms of how it represented class divisions and thus exposed a deep seam of anger and frustration among the working-class community, but in his commentary, by his admittance, he made

no effort to find out anything more about Harrison or the project beyond what he had seen on social media. He made various assumptions on the basis of Harrison being middle class: as essentially a spectator (on a 'poverty safari'), she couldn't possibly understand the lives of working-class Glaswegians, and could not be truly committed to the causes she claimed to support. In his words, he made her into a caricature that was 'easy to dismiss' (ibid, p.208). (This is a common feature of bad arguments known as a **straw man argument** – see Chapter 4.) At this point McGarvey says this about his motivation:

> Beneath all the rhetoric about class, and the insight about cultural inequality and social mobility, ran a river of pure resentment which coursed through me like a drug. This resentment ... had clouded my mind precisely at the moment when I believed I was thinking most clearly. (2017, p.207)

In their book on cognitive-behavioural coaching, Michael Neenan and Windy Dryden (2020, p.9) use the analogy of a lock and key. 'Core' unconscious assumptions are primed to be released so long as the right key is used, and various superficial contours of Harrison's identity and project were a good enough fit for McGarvey's judgement.

This highlights both the effect the experiential system can have on the rational system, but also how the rational system can be blind to this influence. This was not a spontaneous rant from McGarvey but a thought-out argument containing some important points. In part it was the result of the worthy aim of helping the middle classes make sense of aspects of working-class experience, and therefore of why the Glasgow Effect was received in the way it was. But he was seriously off the mark in his attack on Harrison in a way that could easily have been avoided by doing some basic research. It turned out that Harrison is a 'renowned social activist' (McGarvey, 2017, p.209) who supports similar causes and methods to McGarvey. Her principles are deep and consistent and reflected in her lifestyle.

In other words, Ellie Harrison is exactly the kind of person McGarvey should be admiring, and this is what brings him up short and provokes some considerable soul-searching. He admits that, as an artist himself, he was resentful of the attention Harrison's project was receiving, and as legitimate as the point about how working-class

marginalisation explains its reception might be, this is not what motivated his criticism of the project and its creator. At the time he was not consciously aware of his reasons, and as a result the efforts of his rational system were corrupted:

> I had used righteous anger as a smokescreen to conceal something more self-serving. I had used the 'working class' as a Trojan horse to advance my own personal agenda. And I did all of this while believing myself to be well informed and deeply virtuous, unaware of how personal resentment was subtly directing my thinking. (ibid, p.209)

In sum McGarvey's recounting of this episode demonstrates the effects emotions can have on the rational system. He comes to acknowledge that some of the assumptions supporting his argument, and how he chose to construct it, were influenced by his experiential system in a way that reveals a dislocation between the way he wanted to see his self, and the full truth. Anger is empowering and therefore a convenient mask for thoughts and feelings associated with vulnerability (such as envy, or a recognition of our ignorance). His examination of his angry response revealed not just this function, but a range of other defences as well. Dogmatism and the **confirmation bias** are also protective, and for McGarvey honest self-reflection resulted in a hard-won humility and greater self-understanding. In a Socratic fashion he starts to question what else he is wrong about. He apologised to Harrison.

Importantly, and as this example demonstrates, Epstein sees the experiential system as something that can be influenced by the rational system, and partly for this reason is able to contribute ideas to cognitive psychotherapy as well as experimental psychology. **Metacognition** (see Chapter 3), self-awareness more generally, and the use of judgement in deciding when to 'obey the promptings' (Epstein, 2014, p.87) of the experiential system is important for effective decision-making, and for mental well-being more generally. To be able to do this we need to know about the existence of the experiential system – unlike the rational system 'most people are unaware they even have an experiential system, let alone being aware of its manner of operation' (ibid, p.10) – familiarise ourselves with its characteristics (not just in the abstract but through personal reflection), and attain the habit of noticing its influence on our thinking. These are all aspects of what is broadly referred to as emotional intelligence.

The more emotions are entangled with other elements of the experiential system (such as deep-seated motivations, or beliefs resulting from strongly reinforced experiential learning), the less tractable they will be. There are many instances where argumentation's engagement with the rational system is enough, but the application of critical thinking cannot always change minds, even where arguments are strong. There is an immense literature now – in fields like behavioural economics – on what is called bounded rationality, or **motivated reasoning**. While keeping sight of its immense importance, we must acknowledge the limitations of arguments for changing minds. Even where engagement with the experiential system is essential for changing minds and behaviours, the rational system invariably needs to be engaged as well.

2.3 EMOTION AND REFLECTION

Emotion and affect are intelligent in so far as they are generated by what is currently important to us, and they can also serve as reminders of what we might otherwise overlook, or not look at closely enough. It is in this respect that they play a valuable role in critical thinking.

As we have seen, being in a particular affective state will attune us to features of a situation that are consistent with that feeling: anger to injustice, sadness to loss, fear to threat, and so on. Handled rightly, emotions can assist critical thinking by directing and holding our attention so that we are better able to attend to relevant details of the premises we are confronted with. In philosopher Michael Brady's words, they 'motivate a reassessment or reappraisal' of the events that have given rise to them (2013, p.14). For example, feeling compassion motivates empathy such that a moving image or vignette engenders a deeper and more persistent empathetic engagement with the full story behind the argument. As a consequence, we are better able to know whether the compassion is justified.

However, even if the compassion is justified, true stories are often complex, and the risk is that only one dimension is revealed by the emotion-led argument, no matter what the accuracy of one's new, emotionally motivated understanding. In September 2015 images of the drowned 3-year-old Syrian refugee Alyan Kurdi featured on

news media across the world, and had a galvanising effect on attitudes towards the Syrian refugee crisis in some countries.

The image of the dead body – dressed like any other little boy – picked up on a beach and in the arms of a police officer, was unbearable. There was some controversy about papers printing the image, but the *Independent* in the UK justified it in this way:

> The Independent has taken the decision to publish these images because, among the often glib words about the 'ongoing migrant crisis', it is all too easy to forget the reality of the desperate situation facing many refugees.[4]

Indeed, so the emotion prompts a more empathetic engagement with the severity of a situation that drives people to take such risks. And this degree of understanding is a vitally important aspect of what we need to know in order to reach an informed decision about how Europe (say) can best respond to the crisis, and therefore what a given individual should be doing – who to donate money to, who to lobby, and so on. However, it is only one aspect, and the risk of emotion-led reflection is that the salience it affords distorts the argument. How, then, are we to counter this risk of imbalance?

In his discussion of what he calls appeals to pity (compassion is probably the better word though) Douglas Walton (1989, pp.204–5) makes the important point that although the emotion is a rational response to the situation, we need to take care to not let this make us follow blindly any recommendations for action – or we might add, for wider interpretations – offered by the source of the image or story. The insights the emotion facilitate need to be placed in a broader perspective that is viewed more coolly in order to make the right decision. He later discusses 'critical doubt' (Walton, 1992, pp.268–9), the ability to detach ourselves from what is currently compelling and assume a less biased perspective motivated by the desire for truth and objectivity. Underpinning this shift is a deep appreciation that in most circumstances we should avoid decision-making whilst experiencing strong emotions.

Part of the answer is developing an intellectual appreciation of the biases associated with emotions. This is the intention of this chapter, but it is also clear that the influence of the experiential system is such that knowing in this abstract sense is often not enough to influence attitudes and behaviours. In support of a more comprehensive

understanding of ourselves we need a range of the **critical thinking dispositions**, and this is the subject matter of Chapter 3. These include the ability to be flexible in our thinking in a way that helps facilitate open-mindedness and **metacognition**. Dispositions are not simply knowledge, but a combination of traits and skills that must be learned through practice as well as reflection. In this way they become part of our experiential system and thus equip us with a more comprehensive and reliable insight when facing 'hot' decisions. Amidst a torrent of events in which the rational system is too slow or too incapacitated to help, our implicit familiarity with the terrain of emotion and cognition employs its own form of intelligence to guide thinking and behaviour.

2.4 ARGUMENTS APPEALING TO EMOTION

Critical thinking and argumentation textbooks take a wide variety of approaches to emotion. Some ignore the topic completely or dismiss emotions as irrelevant, and where they are included, their relevance is interpreted in different ways. Zackary Seech (1993) and Jill LeBlanc (1998), for example, have some interesting comments on 'emotionally charged language', and Bowell and Kemp (2015) consider it under 'rhetorical ploys'. Occasionally authors will include a category of arguments known as **appeals to emotion** (e.g., Douglas Walton 1989, 1992), and largely these are discussed in terms of individual emotions. In theory this could include any emotion you care to name, but analysis is weighted towards those that tend to be associated with commonly used rhetorical techniques: appeals to fear, pity (compassion), guilt, pride, and anger (or indignation).

Unlike the argument forms you will learn about in Chapters 6–9, appeals to emotion do not have a distinct structure. For example, arguments from expert authority involve claims like: 'X is an expert in the field of Y' and 'X thinks Z about Y'. An argument that evokes an emotional response, however, can take any form at all, and they can also piggyback on other types of argument. Slippery slope arguments (see Chapter 7), for instance, gain much of their persuasive traction from inducing fear in audiences.

Most arguments will involve emotions to some extent. If we care to generate an argument, the chances are it will be on an issue we

care about, and what we care about has inherent connections with emotional responses (anger with injustice, compassion with suffering, fear with threat, guilt with responsibility, and so on). Also, in a dialogue it is usually the case that we stand to lose or gain something depending on how the discussion goes – we may perceive it as a win or a loss, or a mutual exploration of an issue – and in each of these variations our relationship with other discussants is potentially affected.

The matter becomes more complex when we consider that emotion is aroused by both the content of an argument and by the way it is delivered. Language known to express emotion and arouse it in audiences has been referred to as 'emotionally charged' (or sometimes 'emotionally forceful'). Examples include extreme descriptors such as 'awful', 'dangerous', 'radical', 'wonderful', 'awesome'; and absolutist terms such as 'totally', 'completely', 'the greatest', 'the worst', 'always', 'never', 'eternal' (forms of expression Donald Trump is fond of). As we have seen, emotions tend to deal in crude categorisations, a simplified and polarised world in which it is easier to make decisions. Different audiences will be moved by different words and phrases associated with linguistic and cultural norms – often connected with moral values – and a persuasion specialist will know what these are. And as we also found out in this chapter, 'charged' doesn't necessarily mean obvious. The unconscious priming of audiences can take many forms, including the employment of words that will bias readers' or listeners' subsequent judgements.

We should also remind ourselves that a range of non-verbal cues are associated with emotions, including facial expression, posture, gesture, and paralinguistic aspects such as volume, pitch, and pace of delivery. We are typically highly sensitive to these cues when used by others, and they are notoriously hard for us to control. Even when trying hard to conceal our feelings, non-verbal signals will leak from us, perhaps subtly, but still noticeably, for attentive others.

The preceding exploration of emotion and cognition is important preparation for formulating, receiving, and assessing arguments. We are constantly vulnerable to error if we lack self-awareness and allow strong feelings to bias our judgements. And this is especially important since some of those who try to persuade us will seek to undermine our critical thinking in just this way. With this in mind,

a key distinction we need to make when assessing the emotional effects of arguments is between those arguments that generate emotion through form and content that is not relevant, or not directly relevant, to the core message of the argument; and those that generate emotions only as a natural consequence of the subject matter under discussion.

In 2014 Tania Clarence was sentenced to an 'indefinite hospital order' (confinement to a psychiatric hospital) rather than prison after killing her three children, all of whom suffered from the severely disabling condition of spinal muscular atrophy. Details of the case show that Ms Clarence had been under extreme pressure since their births and was suffering from depression. It was a tragic case, and defence QC Jim Sturman argued that a hospital order would be the 'just and compassionate' sentence and, importantly for our purposes, that 'anybody who reads the evidence cannot fail to be moved'.[5] What is implied here, however, is not that being moved by the events will interfere with our ability to reason well, but that being moved is an appropriate response to the circumstances. The compassion we feel is an accurate measure of the tragic nature of the case, and the tragic nature of the case has a profound bearing on how it is understood legally and morally. Put another way, when the defence lawyer explains the circumstances of the killings he is offering premises that are relevant to the conclusion (that Tania Clarence is not responsible for her actions). These premises arouse compassion in us, but the lawyer's aim is not to use this emotion to get away with a poor argument, it is a *natural consequence of the subject matter under discussion*. The lawyer's reference to being 'moved' becomes a shorthand for a just understanding of the case.

In *Twelve Angry Men* Juror 8 also employs an appeal to compassion, but in this instance it is deliberately misleading. The other jury members are reluctant to even discuss the case, so Juror 8 resorts to a heartfelt description of the 16-year-old defendant's tragic life circumstance – born in a slum, mother died when he was young, father served time in prison, time spent in an orphanage – claiming this is a reason to at least give the possibility of his innocence some consideration. It is quickly, and rightly, pointed out that the boy's upbringing is irrelevant, what matters is he had a fair trial and that

their decision is based objectively on the evidence provided: Juror 8 is called out on his poor argument. (It is worth pointing out here that in this situation the compassion-inducing story serves a wider truth-seeking purpose. The tone the story brings to the room seems to help the two factions work through an impasse, and a more constructive route is subsequently followed.)

As another kind of example, consider the difference between the student who calmly asks for an extension for their assignment deadline because of a family-related crisis, and the student who burst into tears in my office while telling me that he can't submit his essay because his computer broke. Of course, this second example might not be designed to be manipulative, but even if it isn't, I run the risk of being softened up by it. By 'softened up' I mean the compassion generated by the presence of someone in tears makes me overly receptive to the unfortunate facets of his situation, and therefore more likely to be biased in his favour when hearing his story and making a judgement on an extension.

In order to better protect ourselves from the problematic influence of emotions in arguments, we need to ask these questions:

Q1: Is this an argument that has generated strong emotions in me (whether through its content, delivery, or both)?

Q2: Do the emotions arise as a natural consequence of the subject matter of the argument, or are they disproportionate or incongruent in some way?
For example, have they been generated by features of the interaction that are irrelevant to the argument such as a person's appearance, or partially relevant such as an engrossing story used as an example? Have immediate or instinctive emotional responses been evoked (such as by the sight of someone in tears)? Have I overreacted to features of an argument because of my own sensitivities or unresolved issues (as with the Darren McGarvey example, above)?

Q2a: If the emotions are disproportionate or incongruent, it can also be constructive to ask: Is the arguer attempting to manipulate me by invoking strong emotions instead of presenting strong arguments?

Q3: If emotions arise as a natural consequence of the subject matter of the argument, are they representative of a balanced view of the issue?

Q4: If so, is it the strength of the argument (including insights assisted by the emotions evoked), rather than the feelings themselves (i.e., the affect heuristic) that leads me to accept or reject the conclusion?

Each of these questions can be applied to ourselves as well in order to facilitate reflection on how the content and delivery of our own arguments might affect their reception.

This is an example of a set of 'critical questions', and as we explore various argument forms in this book (from Chapter 6 onwards) you will become familiar with lists like this. Their purpose is to help us assess the strength of arguments which take a particular form.

2.5 EMOTION AND DIALOGUE

The following chapter (on critical thinking dispositions) concludes with a list of rules for constructive dialogues. They include the willingness to listen carefully and not misrepresenting other people's positions, avoiding attacking the arguer rather than their arguments, and remaining civil. With each of these the presence of strong emotions makes it much harder to achieve. Milder emotions can be constructive, but the broad lesson is the need to be highly vigilant of ourselves and others in this respect. Some basic wisdom on the issues is summarised below (inspired, in part, by insights from Seech, 1993; LeBlanc, 1998; Walton, 1989, 2006; and Hargie 2017):

- Under the influence of strong emotions we are less good at listening, and less inclined to listen. The experiential system is geared-up for quick judgements rather than concentrated deliberation.
- Strong emotions can be contagious: emotion begets emotion, the experiential system engages directly with other experiential systems, and the rational system is disempowered. In some cases, other discussants will see this coming and disengage from the discussion before it becomes heated. Aside from unproductive outcomes, negative emotions can be stressful to experience and

generally disruptive, so many of us are inclined to avoid them. From the previous example, Darren McGarvey observed too that his 'less adversarial' attitude (2017, p.210) led to those of a different view becoming more conciliatory towards him.

- Emotionally charged language can make the arguer seem extreme, dogmatic, and perhaps out of control. It implies an all or nothing conviction and even if we do not really mean it, it can commit us to an extreme or inflexible position (Seech, 1993, pp.16–18). In other words, emotion implies conviction, so emotionally charged language may inadvertently lead us to defend our position more dogmatically than we otherwise would, just so that we remain consistent with our form of expression.
- Emotions are a distraction. For example, they may encourage us to listen in order to be entertained ('appreciative listening') rather than to be critical. Or if someone is angry we might become angry back, or fearful, or focus on how to manage their anger rather than progress the discussion. (Something to look out for in ourselves and others: if someone doesn't want to continue a discussion but doesn't want to admit this they can deliberately, or unconsciously, use emotions for just this purpose.)

For these reasons and others, emotions are a minefield. In a milder (contained, controlled) form they can communicate conviction that can motivate constructive discussion, but mild or strong we can easily be manipulated by them, and not just manipulated by the emotions expressed by other people, but by our own emotions as well.

To keep things on track be prepared to take time out to calm down. If someone else is becoming emotional, telling them to calm down is often counter-productive, so a better approach is to be empathetic and allow them to 'ventilate' (Hargie, 2017, p. 197) before continuing.

2.6 CONCLUSION

It is important for an approach to critical thinking that emphasises cognitive biases, character dispositions, and constructive dialogues to pay some attention to emotions. In this chapter I have attempted to formalise some of the, often familiar, ways they are linked to irrational thinking and biased perceptions, but also to the broad functioning

of the experiential system and its distinctive forms of intelligence. Emotions have a heuristic function that can direct us to features of situations that might otherwise be overlooked, and they can act as reminders of how our cares are prioritised. Emotion, and other types of affect, are basic to our psychology: treated with due caution, their potential for impeding objectivity can be reduced, and their potential for assisting us towards it embraced.

EXERCISES

1. In the introduction to this book I named the film and play *Twelve Angry Men* as the best text I know for applying the ideas of critical thinking. It is essentially a ninety-minute dialogue in which the twelve jury members argue about a murder case. As the name suggests, everyone gets angry at some point – even the impressively temperate Juror 8 – and among many learning opportunities it affords, it demonstrates the effects of emotions on dialogue.

   Juror 8's appeal to pity was discussed in this chapter, but there are countless further examples of emotion playing either a constructive or (most likely) destructive role in the deliberation. Find examples of:

   - Emotion playing a constructive role
   - Displays of emotion causing emotional responses in others (with positive or negative outcomes)
   - Emotion causing others to disengage
   - Emotional expression reflecting negatively on the arguer
   - A person's emotional delivery forcing them into a more extreme position than they might have otherwise settled for
   - Emotion as a distraction, or as a means for avoiding truth
   - Constructive or unconstructive handling of emotions in others

2. In line with what has been discussed in this chapter, monitor your emotional responses in various contexts, and especially dialogues that involve the exchange of arguments.

FURTHER READING

Many important sources are found in this chapter, all of which are in the reference list at the end of the book. I must though highlight Epstein (2014). Also, for a very good philosophy book on emotion and rationality see Brady (2013); and an equally good psychology source is the chapter 'Emotions and Cognition' in Keltner, Oatley, and Jenkins (2013).

NOTES

1 Tremain, R. (2000) *Music and Silence*. Vintage, p. 299. Reproduced by permission of The Random House Group Ltd.
2 There's a nice moment in Jonathan Franzen's recent novel *Crossroads* that presents a similar, though less euphoric, transfer of affect (see pp.44–5).
3 For an experiment along these lines, see DeSteno et al. (2004).
4 Withnall, A. (2015) [Article]. Available at: www.independent.co.uk/news/world/ europe/if-these-extraordinarily-powerful-images-of-a-dead-syrian-child-washed-up-on-a-beach-dont-change-europes-attitude-to-refugees-what-will-10482757.html.
5 www.irishexaminer.com/world/arid-30645119.html

3

CRITICAL THINKING AND DISPOSITIONS

> It is not enough to have a good mind, rather the main thing is to apply it well. (Rene Descartes, [1641] 1968)
>
> My husband says I'm overly sensitive to criticism. BUT WHAT DOES HE KNOW? WHO IS HE TO CRITICISE ME? HE'S LUCKY I DON'T DIVORCE HIM! (Sacha T. Burnstorm, pers. comm.)

Learning about heuristics and biases is not the same thing as learning to think in ways that avoid their negative effects. Critical thinking is something that we need to *do*, not just know about. However, the doing is particularly challenging because of the automaticity of System 1 thinking. We need to develop the habit of critical thinking in order to counteract the powerful tendency to think quickly in situations where thinking slowly would be more beneficial. The skills of critical thinking thus aim to instil more constructive habits of thought.

A further level is added, though, in which these skills are motivated by **dispositions** to think critically. To be a critical thinker in this sense is having what Ennis calls an 'inclination' to think critically. According to this approach we don't just 'do' critical thinking, but 'become' a critical thinker. 'Becoming' a critical thinker, however, does not mean some cultish, full-blooded transformation in your

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personality, as seems to be suggested by some theorists. Harvey Siegel (1988, p.41), for example, says that 'when we take it upon ourselves to educate students so as to foster critical thinking, we are committing ourselves to nothing less than the development of a certain sort of person'. Learning critical thinking can certainly change the way we approach our beliefs about ourselves and the world, and the ways in which we make decisions, but this is usually about shifts in emphasis and the nurturing of existing dispositions rather than the emergence of dominant traits or attitudes. For each individual these tendencies will mix in with the rest of their personality so that no two critical thinkers will be recognisably 'alike' in any generalised sense. Instead, what we would expect are similarities in certain dispositions they exhibit in deliberations and other situations in which arguments are exchanged.

Two further points should be highlighted before proceeding. The first is that we must be careful not to see these dispositions as simply enabling critical thinking in a practical sense, but as motivating it as well. Critical thinking is valued, and should we find we are not thinking critically on an occasion in which we should, then we are emotionally affected by this, disappointed in ourselves.

The second point concerns the distinction between encouraging dispositions that will tend to make us better critical thinkers, and seeing critical thinking as a discipline that will foster these dispositions. Writings in this area tend to be framed in terms of the former, but the latter is implied as well (see, e.g., Aberdein, 2020). Therefore, answers to Robert Ennis' question, 'What are the critical thinking dispositions?' (1996b, p. 168) tell us: (1) which characteristics we need to develop in order to have a readiness for, or be predisposed towards, thinking critically; and (2) which characteristics can be acquired as a result of learning critical thinking knowledge and skills, and from learning about the personal and social value of these things. These will of course be mutually reinforcing, but from an educational point of view the second should be the primary aim. Education will develop dispositions in students whether this is intended or not, but this largely occurs as part of the intellectual and social practices they are being inducted into, rather than as a separate aim. For this reason, teaching critical thinking dispositions

in order to be a better critical thinker seems to put the emphasis in the wrong place. Instead, the knowledge, skills, and values of critical thinking are taught, and we then expect certain dispositions to develop out of this environment.

3.1 SOME CORE CRITICAL THINKING DISPOSITIONS

There have been quite a few attempts to formulate lists of critical thinking dispositions, including Richard Paul (1995, Ch.13), Robert Ennis (1996a, pp.368–9), and Peter Facione (2006). The discussion that follows is informed by several of these, and by other scholars interested in what are known as 'epistemic virtues'. Dispositions (or virtues) tend to be highly interdependent, so that possessing one requires possessing many others as well. Any list of critical thinking dispositions has the potential, therefore, to be very long indeed. To avoid this, I will focus on the ones that have the most direct influence: commitment to truth, open-mindedness, modesty, self-knowledge, metacognition, and what I am calling 'dialogical dispositions'. Where appropriate, however, I will also indicate related or complementary dispositions.

COMMITMENT TO TRUTH

According to Ennis (1996a, p.9), ideal critical thinkers will:

> care that their beliefs are true, and that their decisions are justified; that is, care to 'get it right' to the extent possible, or at least care to do the best they can.

The critical thinker has a commitment to the value of truth, and thus to the appropriate processes for reaching the truth. A 'justified' belief here refers to one that is established through rational enquiry – the use of reason and evidence. It is important to recognise that we can care about truth, but not a commitment to rational enquiry as a means of attaining it. Instead, we could regard notions like faith, or uninformed feelings or intuitions as roads to truth. In some domains (e.g., religious and spiritual beliefs) this might be appropriate, but even here the critical thinker would need to provide an argument for why these domains require a different type of knowledge.

One thing we need to be aware of, in ourselves and others, is the desire to be right posing as the desire for truth. Many of the dispositions discussed below have a bearing on this distinction. The desire to be right implies competitiveness rather than a commitment to truth, and it will leave us especially vulnerable to the **confirmation bias** and other forms of **motivated reasoning**. Juror 4 in the film *Twelve Angry Men* is the reasoned voice of the guilty vote in that he is intelligent, calm, and willing to look at the evidence on its own merits. But unlike Juror 8 he seems to also have excessive pride in being *right*, and this need appears to dampen his inquisitiveness and makes him unwilling to go to the lengths of Juror 8 in scrutinising the arguments put forward by the prosecution.

OPEN-MINDEDNESS

Since seeking truth requires us to listen to the views and reasoning of others, and an appreciation of the fallibility of our own beliefs and convictions, then open-mindedness must be a fundamental disposition of the critical thinker. Open-mindedness is a corrective to the confirmation bias. It does not mean that we should have no opinion on an issue in order to deal with it fairly, but it does mean that we are able to bracket – put aside – this opinion in order to more objectively assess its worth. Instead of looking for premises that support a conclusion already reached, we should be looking closely at the premises that present themselves and then at the conclusions these might lead us to. This is what John Dewey calls the 'attitude of suspended conclusion' (1910, p.13), or as Johnson and Blair (2006, pp.50–1) put it:

> To engage in [argumentation] ... is to admit in principle the possibility that your premises do not constitute good grounds for your conclusion (even though at the moment you think they do).

A good critical thinker understands the limitations of their individual perspectives and the value of other perspectives – and thus the value of dialogue – as a way of opening their mind. Often other people will have positions and arguments that we had not thought of before listening to what they are saying. Open-mindedness entails a willingness to change one's mind, either in the direction of another's

view, or towards a new conclusion not previously considered by the discussants. But, says physicist David Bohm in his book *On Dialogue*,

> such communication can lead to the creation of something new only if people are freely able to listen to each other, without prejudice, and without trying to influence each other. ... If, however, two people merely want to convey certain ideas or points of view to each other, as if these were items of information, then they must inevitably fail to meet. For each will hear the other through the screen of his own thoughts, which he tends to maintain and defend, regardless of whether or not they are true or coherent. (2004, p.3)

Open mindedness is hard to achieve because we must bracket, not just our current belief in some abstract sense, but also the conviction that will typically accompanying it. In order to truly *listen*, we need to be calm. And as already indicated, carefully attending to what the other is saying is a fundamental requirement for critical thinking.

In the passage from Bohm just quoted, he also states that each participant in a dialogue

> has to be interested primarily in truth and coherence, so that he is ready to drop his old ideas and intentions, and be ready to go on to something different, when this is called for. (2004, p.3)

The critical thinker recognises that beliefs are often provisional; open to being disconfirmed by subsequent evidence and argument. If open-mindedness is a willingness to change our mind, then flexibility of thought is the ability to do so. Both are challenging. In the case of flexibility, the firmness of commitment that is needed to act is psychologically opposed to the 'openness to being wrong' that critical thinking demands. For this reason, many other philosophers writing in this field – such as Valerie Tiberius (2008, Ch.3), and Douglas Walton (1992, pp. 267–70) – recognise and support the value of trying to be as flexible as possible in this way. The critical thinker must try to be highly tolerant of – function well in the world despite – uncertainty.

Endurance is also required in circumstances where open-minded decisions need to be made. As we know, **System 2** thinking is energy-sapping, slows us down, and is characterised by John Dewey as 'mental unrest and disturbance' (1910, p.13). Facing dilemmas, we need to have the fortitude to maintain what psychotherapist Irvin

Yalom (1980, p.312) calls 'simultaneous ambivalence'. This is the result of remaining clearly focussed on the for and against of both (or all) the options available, rather than letting one of them dominate our attention and that way incline us to a less troublesome, but biased, decision.

A disposition of significant interest to this discussion is '**need for cognitive closure**'. It has been thoroughly studied by personality and social psychologists in recent decades (e.g., see Webster and Kruglanski, 1994, 1997) and refers to a desire for clear-cut and quickly reached answers to questions and problems. A person with a high need for cognitive closure has low tolerance for ambiguity and uncertainty when making decisions. Low tolerance can be useful in situations that demand quick decisions, but can be problematic in ones where complexity demands and time constraints allow for more careful deliberation. It can lead to inappropriate urgency – 'seizing' on available answers; and once seized, to rigidly maintaining a position for the sake of the closure it is providing.

Situational variables – especially time constraints – play their part in predicting our need for closure, but in a discussion of critical thinking dispositions its status as a feature of our character is of most relevance. In this respect it is correlated with closed-mindedness, inflexibility, and overconfidence; increased susceptibility to a wide range of biases (including **anchoring** effects and the stereotypic judgements associated with the **representativeness heuristic**); and to aspects of social interactions conducive to suboptimal dialogical behaviours such as decreased empathy and elements of **groupthink**. Understood from a dispositional perspective, the aim is to strike a balance between a need for cognitive closure that is so strong it is unable to adapt to the requirements of a situation, and at the other extreme a reluctance to ever settle on a view or course of action.

Flexibility operates at another level as well. A vital feature of a fulfilled life is substantial time spent being 'unreflectively absorbed by what we value' (Tiberius, 2008, p.67). This is a different psychological mode to critical thinking, and is at odds with it – one will tend to get in the way of the other. And since both this type of absorption and reflective thinking are so important we can see how being 'ready' (to use Bohm's expression) to move between the two is important.

MODESTY

Modesty (or humility) is primarily understood as possessing accurate perceptions of ourselves and the status of our beliefs in relation to others. The exaggerated pride in being right we identified in *Twelve Angry Men's* Juror 4 is the opposite of modesty. This is a person for whom it is important to see himself as better than others, whereas in the modest or humble person we find a recognition of and desire for equality. The upshot of modesty is less egocentricity in discussions, and thus a greater chance of open-mindedness.

There is a further reason why modesty is important. Critical thinking is empowering in terms of the insights it provides, and how it improves our ability to successfully interrogate the arguments of others. Since these are not insignificant abilities, they have the potential to create a sense of superiority in the learner. Modesty is a corrective to this. It will incline us to realise that critical thinking is just one among many important practices, and that virtually anyone can become a better critical thinker if they commit themselves to learning it. Perhaps most important of all is the recognition that if people are not schooled in this way it does not follow that: (1) they are unintelligent; (2) they do not have worthwhile beliefs; or (3) they are not worthy or respect. (For more on this kind of issue, see 'Don't be a smartarse', below.)

SELF-KNOWLEDGE

Knowledge of one's self in part comes from an appreciation of the strengths and frailties humans share, including the intellectual frailties that are of interest to critical thinking. It also comes from the specific content of what we believe and feel. This will include relatively superficial and practical knowledge, but also *deep personal attachments to values and worldviews* (such as religious, political, and ethical beliefs) that can be an impediment to open-mindedness.

These attachments are part of what it is to be a person, and though at least on occasion we should be prepared to question them, the time and place of such evaluation requires much care on behalf of the believer and those they engage with. Important for critical thinking, however, is that we are aware of what these deep-seated commitments are.

One reason is that it allows us a clear choice about what we do and do not want to apply scrutiny to, and to put out there for critical appraisal by others. Also, foundational beliefs will permeate many of our other beliefs, so recognising what our commitments are will enable clearer explanations of why we hold the positions that we do. (For further discussion of these ideas see Walton,1992, p.255.) Two brief examples are someone's views on abortion being premised in their Catholic faith, and support for Brexit being an expression of a belief in Britain's inherent distinctiveness from continental Europe (rendering arguments about its economic cost irrelevant).

METACOGNITION

Closely related to self-knowledge is the disposition to be metacognitive. The most specific meaning of this term is an awareness of our thought processes, exemplified by ideas like 'alertness to loss of control of one's thinking', and 'the impulse to stand back and take stock' (Perkins, Jay, and Tishman, 1993, p.8). It is not about formal knowledge of our cognitive biases, but rather the disposition to monitor and assess the quality or mode of our thinking in different situations. An important aspect of this disposition concerns knowing when to think critically and when not to. For example, Perkins, Jay, and Tishman refer to the importance of the 'detection of complex thinking situations' (ibid), which will include knowing when to switch from System 1 to System 2 thinking.

David Bohm discusses the 'blocks' we have that make us unaware of some of the contradictions in our beliefs, and therefore less open-minded. To help understand these blocks, he recommends we develop sensitivity to our emotional responses to certain topics of discussion. 'If one is alert and attentive,' he says,

> he can see for example that whenever certain questions arise, there are fleeting sensations of fear, which push him away from the consideration of these questions, and of pleasure, which attract his thoughts and cause them to be occupied with other questions. So one is able to keep away from whatever it is that he thinks may disturb him. And as a result, he can be subtly defending his own ideas, when he supposes that he is really listening to what other people have to say. (2004, p.5)

With reference to ideas discussed in the previous chapter, we might call this the development of an intelligent affect heuristic.

We should not lose sight, however, of how these considerations are part of a broad sweep of activities and practices making up a life, including ones where metacognition is simply not welcome or necessary: painting or playing sport for pleasure, unselfconscious dancing, and an evening with a *Stranger Things* boxset come to mind. Many such occasions can be sought out and (reflectively) worked into the composition of one's life. It might require critical thinking and its associated dispositions to determine and facilitate these happenings, but many of the resulting experiences are then justifiably pressing metacognition's snooze button.

DIALOGICAL DISPOSITIONS

Critical thinking does not necessarily occur in the context of a dialogue, but it usually does. Written arguments (in academic journals, opinion pieces in news media, social media forums, and the like) are invariably a response to other arguments, and are responded to in turn. Arguments presented in spoken, and especially face-to-face, dialogue can be some of the most persuasive, and are of course found in multiple professional, personal, political, and legal settings. We offer arguments to convince others of our position; arguments provoke questions and counterarguments, and via this process the open-minded, self-aware person should be able to edge closer to truth about the issue under discussion. Good quality dialogues are thus profoundly important, and so the ability to conduct them constructively has equivalent importance. In part this is a matter of knowing and applying certain rules (see below), but there are also dispositions that facilitate this process and embody its value and significance. These include a genuine desire to listen to others' positions, and a desire to present your own position as clearly as possible. And this means providing not just your conclusion, but the reasons supporting that conclusion as well.

I will discuss some important dialogical dispositions – courage, staying focused, respect for others, 'deliberative wit', and not being a 'smartarse' – before providing some basic rules for constructive dialogues.

COURAGE

One reason we might be reluctant to be clear about our grounds for holding the beliefs we do is fear of these beliefs being cast into doubt. This is one reason why an important dialogical disposition is courage. Another is that critical thinking is about independence of thought and thus taking responsibility for one's convictions, and this can sometimes mean standing alone in the face of various forms of authority (see Chapter 6) or significant social pressure to conform (see Chapter 7). Social media is of course notorious for unfiltered and unjustified abuse, and university professors don't always rise above this. One academic researcher writes about how she came into the 2015 UK general election as a floating voter who raised questions about the policies on all sides, but who was confronted 'time and time again' by,

> Posts from my peers packed full of expletives implying that I was bigoted for even doubting the Labour or the Green economic approach.[1]

There are two types of reprimand that the person challenging a group norm can face: one relating to the content of their opinion, the other to the process of speaking out itself. Speaking out can be perceived as problematic for various reasons, including 'rocking the boat' (destabilising an established, possibly hard won, equilibrium). In certain circumstances or at certain times critical thinking, or at least its expression, is not appropriate, and avoiding 'boat rocking' could be one of them. However, as the previous discussion of the characteristics of **groupthink** demonstrates (see Chapter 1), this is often not a judgement call that is easy to make.

Another consideration that affects motivation for critical thinking is that it exposes us to the dark underbelly of existence. By this I do not mean human deviousness or folly, but two of the fundamental existential concerns that continually and inevitably haunt us: that we must take responsibility for our decisions and that there is no preordained order to our lives – i.e., no final set of truths or essential self to be discovered. At a cultural level Kant (1963) meant something like this when he described the Enlightenment as an emergence from an 'tutelage' that is 'self-imposed', not by an inability to reason, but by a lack of 'resolution and courage'. Critical thinking gains much of its significance from a profound freedom that comes

with the understanding that existence has no ultimate answer or purpose. Words like 'active' and 'judgement' serve as reminders that in a very important sense human existence is what we choose to make of it. There is a resoluteness, perhaps even an excitement, associated with this recognition, but also an anxiety, and it is this anxiety that can make critical thinking off-putting. It is strangely disquieting.

STAYING FOCUSSED

In dialogues it is very easy to become sidetracked, so the critical thinker always tries to stay focussed on the overall point of the discussion. Losing focus can happen by accident, but it can also be the result of tactics employed by an arguer who feels they are losing, or who wants to end the discussion prematurely. Fallacies associated with losing focus include **ad hominem arguments** (see Chapters 6 and 7), **red herrings** (see Chapter 10) and **straw man arguments** (see Chapter 4).

Part of the art of staying on track is asking the right questions at the right times. Ennis (1996a, pp.373–5) identifies distinct types of questions:

'Clarification questions' like:

- 'Would you say a little more about that?'
- 'What do you mean?'

'Main point' questions like:

- 'Let me see if I have this right. Is this your main point …?'
- 'I'm afraid I don't quite see what you're driving at. Could you say a little more about it?'

'Reason-seeking' questions, or requests, like:

- 'Perhaps you could elaborate on why you believe that.'

And 'relevance' questions like:

- 'How does that support the conclusion?'
- 'Are you assuming that …?'

Other terms for 'staying focussed' might be persistence or perseverance, and it is noteworthy that John Dewey includes the former in

his definition of critical thinking: 'Active, persistent, and careful consideration of a belief … in the light of the grounds which support it' (1910, p.6). Persistence is part of the courage discussed above, but it can also be valuable when faced with an absence of clarity or deliberate attempts to divert the discussion.

DELIBERATIVE WIT

The notion of deliberative wit, as explained by Scott Aiken and Caleb Clanton (2010), does not refer to humour, but more to 'having your wits about you'. In a dialogue it concerns timely contributions and avoiding being dull, for example through lecturing others. Instead, the points others make are constructively developed, and because you have pre-empted challenges to your own arguments, your responses are more likely to be articulated without the sort of delay that could see the discussion move on without you.

Since, however, this takes us into quite a sophisticated level of argumentation, it runs the risk of creating an imbalance between discussants based on their experience. For this reason it needs to be mitigated by the presence of other virtues – notably respect and humility – considered in this chapter and also stressed by Aiken and Clanton.

An example of an insight that the person with deliberative wit might develop – to do with where to place your conclusion in an argument – is found in Roger Fisher and William Ury's book on 'principled negotiation':

> In talking to someone who represents a construction company, you might say, 'We believe you should build a fence around the project within forty-eight hours and beginning immediately should restrict the speed of your trucks on Oak Street to fifteen miles an hour. Now let me tell you why....' If you do, you can be quite certain that he will not be listening to the reasons. He has heard your position and is no doubt busy preparing arguments against it. He was probably disturbed by your tone or by the suggestion itself. As a result, your justification will slip by him altogether. If you want someone to listen and understand your reasoning, give your interests and reasoning first and your conclusions or proposals later. Tell the company first about the dangers they are creating for young children

> and about your sleepless nights. Then they will be listening carefully, if only to try to figure out where you will end up on this question. And when you tell them, they will understand why. (1991, p.29)

RESPECT FOR OTHERS

Among critical thinking scholars there is some disagreement about whether respect, or care, for others should be counted as a critical thinking disposition. Peter Facione (voicing the view of the majority of scholars at the time) says:

> Good critical thinking has nothing to do with any given set of cultural beliefs, religious tenets, ethical values, social mores, political orientations, or orthodoxies of any kind. Rather, the commitment one makes as a good critical thinker is to always seek the truth with objectivity, integrity, and fairmindedness. (2006, p.11)

'Integrity and fairmindedness' can of course be ethical dispositions, but what Facione has in mind here is their role in truth-seeking – in other word as epistemic dispositions. Respect and concern for others – qualities that seem to be present in *Twelve Angry Men's* Juror 8, but not in master problem-solver Walter White (from *Breaking Bad*) – are not, according to this view, part of the profile of the ideal critical thinker.

It is interesting that, while recognising it is not a defining characteristic, Ennis still sees the need to include 'care about the dignity and worth of every person' among his list of critical thinking dispositions. His reason is it would serve as a 'corrective' against critical thinking's misuse, implying that it is a powerful ability that has the potential to hurt (humiliate, disempower, oppress) others. However, I will argue that: (1) this is not enough of a reason to include it as a core disposition; but also (2) there is another reason why we should regard respect and concern for others as having particular importance for critical thinking.

Critical thinking dispositions can indeed be used for unethical purposes, but this is true of most sets of practice-related dispositions, such as those relevant to being a good sports person or a good businessperson. The good businessperson is not the same thing as a good person more generally conceived, but if we want them not to use their talents and dispositions for ill-intent, or in a way that neglects negative externalities (side-effects of an organisation's activities that it is not legally responsible for), then they need to also have virtues such

as compassion and respect for others. So, in a sense, we would add this basic ethical disposition to most or all other lists of dispositions. A general respect for the welfare and dignity of others is a disposition we would hope to promote and instil in our children, whether or not we are promoting critical thinking, and most professions these days have ethical codes of conduct.

So, in this sense the ethical dimension is relevant, but Ennis has not provided a reason why it should have *special* relevance for critical thinking, and to this extent Facione and others have a point. I believe, though, that there are some more specific reasons why care for others should be seen as, if not fundamental, then as having greater importance to critical thinking than it has to other practices (such as sport). These reasons concern the functioning of constructive dialogues, and the first of these I will initially express in terms of **premises** and **conclusion**:

Premise 1:	Constructive dialogue is crucial for critical thinking.
Premise 2:	Constructive dialogue is less likely if we do not have concern for the welfare of the people we are in a dialogue with.
Conclusion:	Therefore concern for the welfare of others is a disposition of an ideal critical thinker.

The initial premise has already been explained, but the second requires some elaboration. One reason constructive dialogue is less likely if we are not respectful towards other participants is that it could provide an incentive for them to disengage. A person detecting signs of disrespect might leave the discussion entirely, or be reluctant to contribute their full energy, or to be entirely open about their position and grounds for holding it.

This point brings us to a second argument for why concern for others is so important for critical thinking. The reasoning here is less about the functioning of the dialogical process, and more about our ability to understand the positions that others hold. It has already been established that open-mindedness is fundamental to critical thinking, but this is not just a matter of being able to detach ourselves from our commitments in order to objectively assess alternatives, it is also the ability to really *listen* to those alternatives with the right degree of attentiveness. Often the bases of people's beliefs are subtle and highly contextual, and in order to truly understand them

we need to be willing to devote time and energy, and a kind of selflessness, to others' belief systems. John Stuart Mill (1962, p.164) felt strongly about this:

> Ninety-nine in a hundred of what are called educated men are in this condition; even of those who can argue fluently for their opinions. Their conclusion may be true, but it might be false for anything they know: they have never thrown themselves into the mental position of those who think differently from them, and considered what such persons may have to say; and consequently they do not, in any proper sense of the word, know the doctrine which they themselves profess.

Being properly informed on an issue, Mill goes on to say, necessitates that we 'attended equally and impartially to both sides' (ibid). To be willing to do this, I would propose, we need to have a prior respect for the other as the holder of these beliefs. It is this respect that helps motivate careful and sustained listening. Also, to repeat the point made above, the person who suspects that this respect is not present will be reluctant to fully divulge their beliefs and the reasons supporting them. And since the whole point of critical thinking is to *scrutinise* beliefs, it is even more important that this is carried out against a background of trust: trust that others are doing it for the right reasons, and that they are aware that beliefs do not exist independently of believers.

BELIEFS AND BELIEVERS

'Argument, on this model,' says Michael Gilbert about his theory of 'coalescent argumentation', 'is among persons, not between theories' (1994, p.112). Because many of our beliefs – and certainly many of those worth debating – are personal, then to enter into argumentation dialogues can be to run a significant risk. It is more than just the possibility of finding out you are wrong in a way that is analogous to getting an answer on a test wrong; it is becoming doubtful of a belief that is central to your values and commitments. To take this on board can require quite a far-reaching re-evaluation of aspects of one's life. This is a risk we will be more likely to take if we feel that our partners in dialogue are appreciative of this fact, and correspondingly motivated to listen to us in a way that is underpinned by basic respect.

Sadly, the way that critical thinking is taught (and how its aims and methods are communicated) too often runs counter to this attitude. In his article 'Argument is War … and War is Hell' (1995) Daniel H. Cohen is critical of the adversarial, combative way in which argumentation tends to be understood. This, he says, risks creating 'not just able arguers, but *argumentative* arguers: proficient, pedantic and petty' (ibid, 180–1). Taking pleasure in argument for argument's sake, or seeing the aim as winning the argument rather than establishing truth, is all part of the dispositional profile of an adversarial approach. It is something that is readily apparent in the practice of formal debates, and in the way court cases in many countries are conducted. As many social media exchanges demonstrate, it can seep more widely into a culture as well. An upshot, Deborah Tannen (1998, p.9) points out in her book *The Argument Culture*, is that 'you're usually not trying to understand what the other person is saying, or what in their experience leads them to say it. Instead, you're readying your response: listening for those weaknesses in logic to leap on.'

In place of the 'war' metaphor, Cohen suggests various alternatives, including collaborative frames such as brainstorming. In place of listening in order to defeat there is listening motivated by *inquisitiveness*. In place of me against you, there is me and you trying to sort out a problem, the solution to which we might not have been able to reach alone, and which could end up being a hybrid or synthesis of our initial, individual positions.

A side-effect of this attitude to dialogues can be a kind of intimacy that is profoundly rewarding. The careful, respectful listening, and thus opening up to the other's world, is one reason for this. Another is that the sharing of ideas in a dialogue towards new, mutually generated, important insights is an excellent basis for bonding.[2] Philosopher Bertrand Russell describes his meeting with novelist Joseph Conrad in a way that demonstrates this potential:

> We talked with continually increasing intimacy. We seemed to sink through layer after layer of what was superficial till gradually both reached the central fire. It was an experience unlike any other that I have known. We looked into each other's eyes, half appalled and half intoxicated to find ourselves together in such a region. The emotion was as intense as passionate love, and at the same time all-embracing, I came away

> bewildered, and hardly able to find my way among ordinary affairs. (Cited in Yalom, 1980, p.396)

This is an example of what has come to be known as 'flow': the experience of focussed engagement with an intrinsically rewarding task that you are skilled at and in control of, but which is suitably challenging and provides immediate feedback. It is associated with an experience of timelessness (being lost in the moment), non-self-consciousness (the boundaries of the ego are more supple than usual), and calmness. According to the concept's originator – Mihaly Csikszentmihalyi (2002) – it can be elicited by a range of activities, including sport, creative work, and one-to-one social encounters.

A non-dialogical variation of flow is what Dewey (1910) calls 'wholeheartedness'. In contrast to the perseverance needed to maintain concentration in some deliberative situations, wholeheartedness is an intellectual absorption in a subject where 'the material holds and buoys [the] mind up and gives an onward impetus to thinking' (ibid). It is complex, reflective thinking with its own momentum, and in which questions and ideas arise 'spontaneously'.

To return to the central point, care for the well-being of others is an important disposition for a critical thinker to possess, but it should also be apparent that the practice of critical thinking, if encouraged in the right ways, can itself serve as a gateway to understanding and compassion. Critical thinking can thus be motivated not just by truth-seeking, but by connection and intimacy.

DON'T BE A SMARTARSE

The broad applicability of critical thinking – to personal, professional, and civic life as well as academic development – means that a level of care is needed in how we use it that is distinct from other disciplines. For example, in exercising one's ability one must be aware that this can, as Ennis (1996b, p.171) puts it, 'intimidate and confuse' others who have not had this training, or who are not otherwise inclined to think in this way. This does not mean that we should not engage them, or even 'push' them to do so, but it does mean that we should do this sensitively. We need to be careful with the language we use, and we need to not believe that we are in some sense superior.

For Ennis, then, the ideal critical thinker will 'take into account others' feelings and level of understanding, avoiding intimidating or confusing others with their critical thinking prowess' (ibid). In other words, *don't be a smartarse*. Since their primary intention is to entertain rather than to seek the truth, caution is needed when assessing arguments in comedy routines.[3] I am, however, going to consider a story from comedian Stewart Lee. It is an example that I believe is justified because the comedian's own published reflections seem to make it clear that this was a real event and that this is how he felt about it. During one of his shows, Lee is making a point about intolerance, and the context is a cab driver who says to him, out of the blue, 'all homosexuals should be killed'. Lee asks him for his reasons.

> And then there was a pause, because he'd never had to go to the next level of the argument ... after a moment he said 'Well, because homosexuality is immoral.'

Offering the example of the ancient Greeks, Lee then explains to him that 'morality is not a fixed thing' and therefore not the best basis from which to argue this point. The cabbie's response is:

> 'Well, you can prove anything with facts, can't you?'

Lee continues:

> For a minute I went, 'Yeah.' And then I thought, 'Hang on! That's the most fantastic way of winning an argument I've ever heard! '... I'm not interested in facts. I find they tend to cloud my judgement. I prefer to rely on instinct and blind prejudice.'[4]

As abhorrent as the cabbie's stated view is, Lee is being a smartarse because the argument he presents is bound to cause confusion. It deals in historical facts and abstract concepts like moral relativism that the cabbie probably will not be familiar with. Lee is talking over his head, and so understood more charitably the response 'you can prove anything with facts' should not be taken literally. Instead, it should be interpreted along the lines of 'I don't understand what you're talking about', or 'displaying familiarity with technical terms and giving the appearance of clever arguments can fool some people, but not me', or perhaps simply 'I know when I'm being patronised.'[5]

A virtue of 'deliberative friendliness' captures the type of constructive approach that would mitigate smartarsery. It has been defined as:

> the willingness to entertain discussion in a manner that does not unnecessarily offend or alienate interlocutors. (Aiken and Clanton, 2010, p.415)

It does not directly refer to the respect for others previously discussed, but to the style of one's engagement. This should be critical but encouraging, rather than 'quibbling and quarrelsome', and resolutely not one that 'takes any argumentative failure on the other's side to be evidence of cognitive asymmetry between the two' (ibid, p.415).

In summary, some important lessons from this branch of the discussion of dispositions are these:

- Dialogues can be valuable for reaching mutually satisfying and edifying answers, rather than a win-lose framework.
- Because the bases of some of the beliefs we hold are complex or hard-to-get-at, dialogues involving these issues need to be conducted with respect, sensitivity, and tolerance (including for apparent dogmatism).
- Increased or deepened knowledge of others will often be a result, and can be an additional aim, of argumentation.
- Increased or deepened self-knowledge will often be a result, and can be an additional aim, of argumentation.
- Careful and sustained listening is privileged as a skill, and is associated with dispositions such as open-mindedness and humility.
- There is a requirement for sensitivity, not just to the complexity, subtlety, and distinctiveness of the positions others hold, but to their style of thinking, vocabulary, and conversational norms. These are not necessarily those of someone educated in critical thinking, but this is not the same as being unintelligent or uninformed. And even if someone is these things, it does not follow that they cannot be engaged in some level of argumentation.

3.2 GUIDELINES FOR CONSTRUCTIVE DIALOGUES

In addition to this analysis of dialogical dispositions it might be helpful to provide a summary of rules of conduct (influenced by Ennis,

1996b; Walton, 2006; and the work of pragma-dialecticians such as Eemeren and Grootendorst, 2004) that we should try to follow for dialogues to have the best chance of success. The person who has developed critical thinking dispositions will be inclined to these ways of behaving, in which case these guidelines can serve as a kind of summary of how an ideal critical thinker comes across when engaging in argumentation. It can also, however, function as a standalone checklist that has value regardless of underlying dispositions to conduct oneself in these ways.

1. The discussants should be allowed to speak freely – both when expressing their views, and when being critical of the views of other discussants. Where appropriate, however, due notice should be paid to the timing and manner of contributions (see 'deliberative wit', above).
2. If a discussant is asked to explain their viewpoint – for example, provide more clarity, or provide reasons for why they hold that view – they must be prepared to do so. This is especially important since premises are often implicit. (See Ennis's list of 'clarification questions', above.)
3. Discussants have a duty to listen carefully to, and avoid misrepresenting, each other's views.
4. Unless the issue is about the person or persons involved, personal attacks (ad hominem arguments – see Chapters 6 and 7) should be avoided where possible. Often these are fallacious, but even where they are not their emotive nature can cause the discussion to descend into a quarrel.
5. Discussants should address each other in a civil manner.
6. Discussants should follow basic rules of conversation such as turn-taking.
7. The discussion should usually only end when all parties agree that they have said all that they need to say (including asking for clarifications and explanations from others), and that all the issues have been given due consideration, even if some of these are postponed to a later time. Also, note that dialogues should only *start* under at an least implicit agreement by all parties that they want to enter into a discussion (or must enter into a discussion, as in the case of a jury).

3.3 CONCLUSION

Dispositions are fundamental to critical thinking because the skills taught in the next two chapters should be rightly motivated, and because their effective employment will invariably require wise judgement. While a wide range of dispositions or virtues can be seen as relevant to critical thinking, this chapter has identified and discussed ones that are closer to its heart, such as open-mindedness and commitment to truth. I also take the position that, since constructive dialogues are basic to the discipline, dispositions relating to care for others, as well as the practical facilitation of these interactions, are of great relevance. Finally, the importance of self-knowledge is an important theme from the opening chapters of this book: the cognitive and motivational biases that typify human thought, and the ways emotions can interfere with or enable rational decision-making. All critical thinking dispositions and skills help us counteract or enhance these features, but the self-knowledge derived from reflection on our personal preferences, priorities and prejudices is vitally important too.

EXERCISES

1. A particularly valuable exercise I have used in class involves watching (and/or reading) *Twelve Angry Men* and assessing the critical thinking dispositions of some or all the characters in the play/film. The quality of the content of their arguments, and especially the way they interact with one another, will serve as clues to the presence or otherwise of dispositions and behaviours that have been the subject of this chapter. The same approach can of course be applied to characters from other stories or from real-life contexts (such as political debates) as well. A good example is Cathy Newman's infamous interview with Jordan Peterson in 2018 (originally Channel 4, now easily locatable online).
2. A good way to develop our open-mindedness is through what's known as 'counter-attitudinal advocacy'. This means to write or speak in favour of a position that you do not hold

and/or to argue against a position that you do. Its effectiveness with respect to changing minds is well-established in the psychology and communication research (see Petty and Cacioppo, 1996, Ch.8), but its weakness is that you can only get people to act in this way under certain circumstances. A critical thinking class is just such a circumstance though. For example, class members' views on contentious contemporary issues can be sought and a debate organised in which the participants argue counter-attitudinally.

FURTHER READING

Aside from the in-text references to the ideas of people like Ennis and Facione, the following sources are particularly relevant to some of the ideas discussed in this chapter:

- For an interesting discussion of flexibility see Tiberius (2008, Ch.3).
- For a review of research on need for cognitive closure see Webster and Kruglanski (1997).
- A very useful source of advice for constructive dialogues can again be found in Robert Ennis (1996a, pp.371–5), and for or a more in-depth look at the nature of dialogues (including 'Rules for a Critical Discussion') see Walton (2006, Ch.5).
- An excellent source on constructive conversations, including politeness, is Deborah Tannen (1992); and her later work (1998), directly about argumentation, offers a wide range of insights into problems resulting from an excessive emphasis on combative approaches to disagreements.

NOTES

1 Diana Beech, Attitude is Everything, *Times Higher Education*, 21.5.15.
2 Cohen and Miller's (2016) notion of 'compathy' in argumentation shares several features with what is being discussed here.
3 Although there are of course genuine hybrids, such as Comedy Central's *The Daily Show*, and the performances, writings, and podcasts of people like John Oliver, Rachel Parris, and Matt Forde.

4 *How I Escaped My Certain Fate: The Life and Deaths of a Stand-up Comedian* (London: Faber & Faber, 2011) pp.80–2.
5 I should point out that Stewart Lee is not usually a comedian who mocks anyone vulnerable, such as inarticulate people. Much of what he says and seems to stand for is actively promoting fairness and non-prejudicial attitudes. (And of course, what's astonished/angered him here is the cab driver's prejudicial statement.)

4

ARGUMENTS AND ARGUMENT RECONSTRUCTION

> A physician cannot treat a disease ... properly without diagnosing it correctly. An attorney cannot advise a client properly without knowing the precise and full particulars of the client's situation. Nor can a reasoner evaluate an argument properly without a precise understanding of what the argument is. (Johnson and Blair, 2006, p.11)

In this chapter we turn our attention away from the arguer's cognitive biases, emotions, and dispositions, and towards the nature of arguments themselves. The majority of the chapter is devoted to explaining argument reconstruction: the practice of extracting the essential content and structure of someone's argument from the everyday language in which it is expressed or implied. Here we will encounter concepts and techniques such as ambiguity and vagueness, straw man arguments, implicit premises, and the principle of charity. Prior to this, I will provide a reminder of what an argument is, and explain how the sentences which comprise the premises and conclusions must be what are called 'propositions' or 'statements'.

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4.1 THE STRUCTURE OF ARGUMENTS

In the book's Introduction it was explained how the identification and analysis of **arguments** is at the heart of critical thinking. An argument, you will recall, is comprised of:

1. A claim being asserted that you want other people to believe is true.
2. Reasons offered in support of this claim, through which we try to rationally convince other people that this claim is true.

The point of offering an argument is to convince someone else of your point of view. This point of view forms the **conclusion** of the argument, and information (statements) offered in support of this are called **premises**. An argument can have any number of premises, and in the traditions of formal and informal logic they are usually set out in this form:

Premise 1:
Premise 2:
Conclusion:

For the sake of brevity, a premise is abbreviated to 'P' and a conclusion to 'C', so it becomes:

P1:
P2:
C:

This would be the structure of a simple two premise argument, such as:

> Anything that intensifies racial discrimination should be outlawed. Capital punishment intensifies racial discrimination. Therefore capital punishment should be outlawed.

Set out formally it would read,

P1: Anything that intensifies racial discrimination should be outlawed.
P2: Capital punishment intensifies racial discrimination.
C: Therefore capital punishment should be outlawed.

Another example of a simple argument is:

> Isaac Newton was not a true natural scientist. This is so because anyone who believes in the principles of alchemy cannot be a true natural scientist, and Newton believed in the principles of alchemy.

P1: Newton believed in the principles of alchemy.
P2: Anyone who believes in the principles of alchemy cannot be a true natural scientist.
C: Therefore Newton was not a true natural scientist.

Often arguments are more complex that this, involving many more premises (some of which might be 'implicit'), more than one conclusion, and what are known as 'sub-conclusions'. These variations will be explored shortly.

4.2 PROPOSITIONS (STATEMENTS)

Premises and conclusions must be what are called **propositions** (or statements). A proposition is a sentence that makes a claim about something that can (in theory) be adjudged to be true or false. The majority of the things we say are propositions, from 'The primary cause of the American civil war was slavery' and 'A proven liar is unlikely to last long as the UK Prime Minister' to 'I'm feeling hungry'.

Propositions are contrasted with other kinds of sentence, most commonly:

Questions ('Where did you leave the children?')
Directives ('Please check to see if they are okay.')

Directives are instructions or orders like 'Pass the remote control', or 'Take one tablet twice a day.' Both questions and directives, you will notice, cannot be true or false; they are not attempts to say things about the world. Because arguments are all about establishing truth and falsity then their components must be sentences that can be evaluated in this way; in other words, they must be propositions.

When reconstructing arguments, part of the challenge can be converting rhetorical questions into statements. If my wife asks me if I would like to watch an episode (or two) of *Game of Thrones* there is

no statement implied in this, she is simply asking me a question to which I need to supply an answer. If, however, as another character is graphically dispatched, she asks 'Is that really necessary?' she is not expecting a reply, but implying a proposition. Her rhetorical question can be translated into a statement such as '*Game of Thrones* would be just as good without quite so much gore.'

4.3 ARGUMENT RECONSTRUCTION

The skill of argument reconstruction and evaluation is one way in which some of the core knowledge and skills of critical thinking are applied and practised. In this section you will be learning about the reconstruction part – what argument (or arguments) is (or are) being put forward – and the rest of the book will be relevant to the evaluation part: assessing the quality of the argument or arguments.

Argument reconstruction is a skill more than simply a demonstration of what you know, and like many skills it involves judgement because:

1. In each case you will be applying it to new arguments, and the forms these take across different contexts vary considerably.
2. Quite often what people are expressing is open to more than one plausible interpretation.

You will become better at making these judgements the more you become familiar with the subject matter of critical thinking, but more importantly it is a matter of practice. As indicated, argument reconstruction is primarily a skill. There are a number of guiding principles and recommendations (set out below), but mastering it requires doing it, and doing it really quite a lot. This can be tedious for sure, but with perseverance your improvement will be very apparent, as will the way in which this ability transfers itself to improved questioning and comprehension in any part of life where arguments are found.

The basic aim of argument reconstruction is simple enough: *distil the essence of the argument that is being made*. It can be understood as a form of summarising. Critical thinking has been defined as minimising errors in our reasoning by improving our ability to generate

strong arguments and evaluate the arguments of others. Since formulating our own arguments usually involves responding to the arguments of others, then the quality of these evaluations is of fundamental importance. But assessment can only be effective if the argument has been properly understood in the first place.

The truth of this is perhaps obvious, but worth highlighting because its intellectual obviousness can mask to how difficult it is to achieve in practice. Many of the reasons behind this difficulty were discussed in Chapters 1 and 2, and the interpersonal, ethical, and epistemological significances of careful reading and listening were addressed in Chapter 3. In the language of argumentation, a misrepresentation of someone's position so that it is negatively distorted or caricatured is known as a **straw man argument**. Straw man (or straw person) arguments are so named because it is easier to push over, or bring down, a straw effigy than a real person. The metaphor represents the difference between X's real position and a weaker position ascribed to them by Y that is easier to argue against.

For example, journalist and broadcaster Andrew Marr, in discussion with Rachel Holmes, author of a recent book on Emmeline Pankhurst, puts it to her:

> At one point in the book you describe [Pankhurst] as a 'wild, unconventional, obdurate, upstart, ultra-left, feminist nightmare'.

Holmes responds:

> I say that's one version of how some people saw her. ... As George Bernard Shaw ... said, there were only two views about her, either that she was miraculous or that she was unbearable. That's the unbearable version ...

Marr's question implies that this is Holmes's view, which it clearly isn't. His intention is to spice up the conversation, and it can perhaps be forgiven as a journalistic device in what an essentially low-stakes and non-confrontational context.[1]

Journalism – and especially the broadcast variety – of course has at least one eye on entertainment, but academic debates are far from immune from straw manning. In her book *Testosterone* Carole Hooven discusses some of the ways biological and evolutionary approaches to explaining human behaviour are caricatured by their opponents. They are, for instance, portrayed as rejecting any place for cultural

influence or choices made by individuals; or as condoning immoral behaviours that have an evolutionary basis. In Hooven's words, 'Who on earth thinks that?' (p. 250).[2] No one sensible from this school of thought does, and nothing in their theory requires such back and white thinking.

Sometimes a distorted version of an opponent's position is deliberately employed, but the straw man label also applies to instances where it is a mistake. From a dialectical point of view, being misrepresented is extraordinarily frustrating, and if due time or space is not allowed for us to make corrections to what others have said then the dialogical process is liable to be derailed.

Controversial topics (such as abortion or immigration) and situations where lines are sharply divided (such as party politics) breed straw man arguments that are fuelled by emotion and competitive urges. They often happen under cooler conditions as well though, sometimes because of inattention to detail. In all cases the **confirmation bias** is implicated (see Chapter 1), and the discussion in the previous chapter about open-mindedness and paying careful attention to both the words and the circumstances of the other is important for avoiding unintentional straw man arguments. Most especially, we need to avoid, where possible, hearing arguments second-hand. As John Stuart Mill (1962, p. 63) says, we should 'hear them from persons who actually believe them; who defend them in earnest, and do their very utmost for them'.

Also, a common occurrence is the opposite of a straw man argument – known as an 'iron man' argument. As you would imagine, these are cases where we misrepresent a position – whether intentionally or in error – as being stronger than it is. The result, or at least the aim, is that it is easier to defend: 'When my client said the victim "was disappeared" your Honour, what he meant to say was that the victim just disappeared, without explanation.'[3]

Critical thinking scholars are fairly consistent in listing the tasks that need to be performed towards reconstructing arguments.[4] In this tradition the rest of this chapter will help you develop and refine this skill under the following headings: Identifying premises and conclusions; Rewording; Implicit premises and conclusions; and Argument structure: Sub-conclusions and the reordering of premises.

IDENTIFYING PREMISES AND CONCLUSIONS

There are two methods for identifying the conclusion of someone's argument. The first is to read (or listen) carefully and ask yourself 'What point are they making?' In **dialogue** this might require asking others to clarify what they mean, and with written arguments the responsibility lies with us to read, and if necessary reread, what is presented in order to establish the overall conclusion. Similarly with premises, once you have established the overall point it is a matter of working out what is being said in support of that point. Not everything in the text in question will be relevant to the argument, and often it will not be presented in the best order or as clearly as it might be. As you will see, part of the argument reconstruction process is to tidy up these aspects leaving only what is (or what seems to be) relevant to the argument.

The second method is to look for **premise and conclusion indicators**. These are words that often function as precursors to premises and conclusions; for example, conclusions can often be identified by the presence of terms such as:

- 'Therefore', 'thus', 'so', 'hence', 'accordingly', 'in which case'

And premises can often be indicated by phrases like:

- 'My reason is …', 'My evidence for this is …', 'This is so because …'

The two methods can be used together, but for several reasons I am inclined to emphasise the first one. The first is that reading and rereading a passage helps us to understand it more deeply, and not be tempted by the shortcuts that premise and conclusion indicators can provide. The second is that premise and conclusion indicators are not always present. For instance, if the conclusion is at the start of a passage – like the paragraph you are reading right now – it will not be prefixed by an indicator like 'therefore'. A further reason is that we find premise indicators in explanations as well as arguments. The difference between an argument and an explanation is that with arguments the conclusion has not been agreed upon, whereas with explanations it is agreed that something is the case, and someone is then enquiring about what has led to this. So, I might explain that I was late for the meeting because of a puncture; or that Pluto is

sometimes closer to the sun than Neptune because it has a more elliptical orbit. Notice that the word 'because' is used here as well, and with both arguments and explanations we are providing 'reasons'. Notice also that it is not always that clear whether something is an explanation or an argument if we are lacking the necessary context. In the latter example it could be that someone needs to be convinced of the fact that Pluto can be nearer the sun than Neptune.

REWORDING

Part of the skill of argument reconstruction is to make what is presented both argument-appropriate and as concise as possible without losing its meaning. Great care must be taken with this because inattentive rewording of premises and conclusions can lead to the misrepresentations of authors' intentions. Where possible, the rule for avoiding this is: *if in doubt, retain the original words*.

The three main aims of rewording are:

1. Translating information in the form of non-propositional sentences (such as rhetorical questions) into propositions.
2. Condensing the argument where necessary through:
    i. using more efficient expressions and
    ii. leaving out material that does not contribute to the premises or conclusions.
3. Clarifying ambiguous and vague sentences.

The passage below is from Martin Luther King, Jr.'s *Letter from Birmingham Jail*. As you will recall from Chapter 1, the overall aim of the letter was to justify King's method of non-violent (but sometimes illegal) direct action against forms of white oppression in the southern states of America. The letter, though published in the press nationwide, was ostensibly written to members of the white clergy in Alabama who, though supportive of his cause, were critical of his methods. One of many arguments he makes is this:

> In your statement you asserted that our actions, even though peaceful, must be condemned because they precipitate violence. But can this assertion be logically made? Isn't this like condemning the robbed man

> because his possession of money precipitated the evil act of robbery? Isn't this like condemning Socrates because his unswerving commitment to truth and his philosophical delvings precipitated the misguided popular mind to make him drink the hemlock? Isn't this like condemning Jesus because His unique God-consciousness and never-ceasing devotion to His will precipitated the evil act of crucifixion? We must come to see, as federal courts have consistently affirmed, that it is immoral to urge an individual to withdraw his efforts to gain his basic constitutional rights because the quest precipitates violence. Society must protect the robbed and punish the robber.[5]

It is immediately evident here that King, Jr.'s argument employs a series of rhetorical questions. Each though contains a relevant point, and so they need to be preserved in the reconstruction in the form of propositions. Some of his sentences are quite wordy and can be condensed; and the last sentence seems to be a rhetorical restatement of the conclusion that has already been expressed in the previous sentence (and in the second sentence of the passage). Taking these things into consideration, a reasonable reconstruction might be as follows:

P1: It is claimed that our peaceful actions must be condemned because they precipitate violence.
P2: To condemn our peaceful actions in this way is like condemning someone (e.g., the robbed man, Socrates, Jesus) for doing what is right (or what they are entitled to do) just because it provokes bad/misguided people to do wrong.
P3: It is wrong to condemn the robbed man/Socrates/Jesus.
P4: The federal courts have consistently affirmed that it is immoral to urge an individual to withdraw his efforts to gain his basic constitutional rights because this precipitates violence.
C: Therefore it is illogical and morally wrong to condemn nonviolent protest because it precipitates violence.

This presents the essential structure of the argument (which is an argument from analogy (see Chapter 9)) and an appeal to various authorities (see Chapters 6 and 7), but by condensing some of the premises this version quite possibly loses the full implications of the examples he uses. For audiences familiar with the relevance of Socrates and Jesus to the point being made, this version might be

adequate; and so too in a situation where the reconstruction aims only to reveal the argument's essential structure on an occasion when all parties are looking at the original passage at the same time. Otherwise the detail King offers is important to include, resulting in the following reconstruction:

P1: To condemn our actions because they precipitate violence is like condemning the robbed man because his possession of money precipitated the evil act of robbery.
P2: This is like condemning Socrates because his unswerving commitment to truth and his philosophical delvings precipitated the misguided popular mind to make him drink the hemlock.
P3: And this is like condemning Jesus because His unique God-consciousness and never-ceasing devotion to His will precipitated the evil act of crucifixion.
P4: We do not condemn the robbed man/Socrates/Jesus.
P5: The federal courts have consistently affirmed that it is immoral to urge an individual to withdraw his efforts to gain his basic constitutional rights because this precipitates violence.
C: Therefore it is illogical and wrong to condemn the peaceful actions of the civil rights movement.

Premises 1–3 could be grouped into a single, very long, premise, but separating them in this way makes the argument easier to analyse. For example, we might want to contest the strength of King's analogy with the robbed man, but be more satisfied with the Socrates and Jesus analogies.

In summary then: questions and other non-statements *must* be reworded if they are to form part of the reconstruction; but if in any doubt as to whether significant rewording or condensing of sentences might lose important content, then leave them in their original form.

The third aim of rewording is to clarify, where relevant and possible, ambiguous and vague sentences. An ambiguous sentence is one that has more than one possible meaning, for example:

> After the bar room brawl the tables were turned.

As this suggests, ambiguity, as the basis of puns, is a fertile source of humour, but it can be cause serious problems as well. A former

colleague of mine came across this sentence in a child development textbook:

> 19 per cent of US children are poor, rates that climb to 30 per cent for Hispanic children, 32 per cent for Native-American children, and 34 per cent for African-American children.[6]

This can imply that these ethnic groups are not US children, whereas what the author intends to say is that '19 per cent of US *as a total population* are poor'. (This has since been corrected.)

In his *Guardian* newspaper column Giles Fraser wrote a piece called 'Assisted suicide is the equivalent of a zero-hours contract with life'. He argued that a recent trend for suicide in the UK is a symptom of excessive individualism. Everything has become an individual choice (rather than a community responsibility), including when we die.

> Maud lives round the corner from me in south London. She remembers a time when everyone knew everyone else, and when there was genuine community solidarity. Nowadays people come and go, she says, and young people can't be bothered with the elderly. She is often lonely. 'Even the doctor came round to see me and asked me if I wanted to commit suicide,' she says.[7]

Some very black humour flirts with this example because I do not believe for a second that the doctor was offering Maud suicide as an option (as he might offer her forms of medication or counselling). Considering her loneliness or depression, I imagine he was trying to ascertain if she was a suicide risk. In this example it is hard to know whether it is the doctor, Maud, or Giles Fraser that has caused the mix-up. Let's hope it is Fraser, but whichever is the case what we are presented with is ambiguous.

When teasing out the premises and conclusion of a person's argument, ambiguous sentences must be disambiguated. In a dialogue we can ask the person for clarification, but if they are not available for questioning we can either:

- Do our best to suppose their intended meaning, applying the 'principle of charity' (see below); or
- Reconstruct more than one version of the argument, applying alternative meanings of ambiguous sentences in each case.

If an ambiguous sentence is one which can mean more than one thing, a vague sentence lacks precision. In many contexts an absence of precision is entirely appropriate so long as the communicator and their audience share relevant cultural and linguistic norms: 'give me a moment', 'I'll be there soon', 'just a few potatoes'. (The process of learning these norms was highlighted a few years ago when my then 4-year-old asked me, in all innocence and with no agenda, how long a 'moment' is.)

It has been suggested that the Intergovernmental Panel on Climate Change (IPCC) should change its style of reporting probabilities to the media because of a mismatch between the vague terms it uses and what these are taken to mean by the general public. For example, in statements like 'Ice-free Arctic Ocean summers are *very likely* at levels of global warming higher than 2°C'[8] they use 'very likely' to mean >90% certainty, but it has been found that the public's understanding of 'very likely' is >70% certainty.[9] This represents a significant discrepancy that will not help the already tough task of communicating urgency and motivating climate-related behaviour change.

Vague statements can signal the beginning of a dialogue in which a relatively unformed belief about an issue achieves sharper focus: 'You say that it's "very likely" that … But what exactly do you mean by this?' But in non-dialogical communication vagueness can be problematic where it causes (1) misunderstanding (as in the IPCC example), and (2) imprecision that is inappropriate for the context in question, leaving us unable to respond until we know exactly what is meant by, for example, 'the train is delayed'; 'the airport is quite close to the city'; 'their actions were borderline illegal'; 'Lou was talking about you the other day'; or 'it was a fairly innocent flirtation'.

Unlike ambiguous sentences, vague statements can form premises and conclusions in arguments where (1) and (2) above do not represent a problem ('I've only got a couple more things to do, therefore I *will* be there in a short while'). Where (1) or (2) is a problem, the issue is similar to the one caused by ambiguity. Vague sentences become, in effect, ones that cannot be determined to be true or false, and therefore cannot function as propositions. When reconstructing arguments we therefore need to make these meanings more precise, either through an educated guess or through further research. As with the rewording of ambiguous sentences, the 'principle of charity' should also be applied (see below).

IMPLICIT PREMISES AND CONCLUSIONS

Much of the time we do not explicitly say everything that is necessary for the complete formulation of the argument being presented. The most implicit an argument can be is when it is presented visually, such as advertisements with minimal written text, or gestures like the two-handed diving motion used by footballers to indicate to the referee that a player went over rather too easily.[10] Partial arguments are most common though; a simple example might be:

> Only extraverts are energised by social situations, so Susan is an extravert.

The whole argument would run:

P1: Only extraverts are energised by social situations.
P2: Susan is energised by social situations.
C: Therefore Susan is an extravert.

P2 might typically be missed out in natural language because it is obvious to those listening that this is the implication, or it could already be common knowledge. The Greek word for an argument with a missing premise (or premises) is an **enthymeme**, and Aristotle (1991, p.195) recommends their use where being fully explicit can be unnecessarily wordy and have the effect of being boring, patronising, and in some cases harder to follow (similar to what is referred to these days as 'mansplaining').

Conclusions as well as premises can be unproblematically implicit. The context of the following letter to a newspaper was the UK Government's response to IS incursions into Iraqi Kurdistan in the summer of 2014. It contains implicit premises and a conclusion implied by a sarcastic question:

> Prime Ministers have regularly used war abroad to distract from constitutional matters or problems at home, as history shows. But it couldn't happen today, could it?[11]

A reasonable reconstruction might be:

P1: History shows that prime ministers have regularly used war abroad to distract from constitutional matters or problems at home.

P2: The current government is unpopular.
P3: The current government has involved us in another war abroad.
C1: The current government is using war as a distraction.
C2: Using war as a distraction can still happen today.

Often the reason for making implicit premises explicit is to highlight an **assumption** that needs to be questioned. An assumption, in the context of an argument, is a belief that has relevance to the argument, but which has not been defended. Assumptions can be implicit or explicit, and in many cases they do not need to be defended if they are common knowledge or trivially true. Dangerous ones, though, are those that are both implicit and need defending. Making these assumptions explicit is therefore one of the most important reasons for reconstructing arguments. For example, should we want to respond to the letter above, it is important to make P2 and C1 explicit.

ARGUMENT STRUCTURE: SUB-CONCLUSIONS AND THE REORDERING OF PREMISES

More complex arguments can involve what are known as **sub-conclusions** (sometimes referred to as 'intermediate conclusions'). Sub-conclusions indicate that there are one or more smaller arguments that contribute to a larger argument. In our reconstructions it is important to identify and separate these so as to aid clarification and evaluation.

Arguments with sub-conclusions have a structure along these lines:

Premise (1)
Premise (2)
Conclusion (1)
Premise (3)
Conclusion (2)
Premise (4)
Etc.
Overall conclusion

Arguments containing sub-conclusions are usually **chained arguments**. In a chained argument each sub-conclusion forms a premise

for a further argument, and in such a circumstance it is crucial that we put the premises in the right order in our reconstruction. Here is an example of a chained argument:

> Healthcare is basic to human welfare. Resources basic to human welfare should be free at the point of use, and therefore healthcare should be free at the point of use. Healthcare funded by private insurance is not free at the point of use, so healthcare should not be funded by private insurance.

The correct reconstruction would be:

P1: Resources basic to human welfare should be free at the point of use.
P2: Healthcare is basic to human welfare.
C1: Therefore healthcare should be free at the point of use.
P3: Healthcare funded by private insurance is not free at the point of use.
C2: Therefore healthcare should not be funded by private insurance.

In order to establish C2 (healthcare shouldn't be funded by private insurance), C1 must first be established (healthcare should be free at the point of use). If the two arguments were put the other way around the overall argument would not make sense:

P1: Healthcare funded by private insurance is not free at the point of use.
C1: Therefore healthcare should not be funded by private insurance.
P2: Resources basic to human welfare should be free at the point of use.
P3: Healthcare is basic to human welfare.
C2: Therefore healthcare should be free at the point of use.

The best approach to deciding whether a conclusion is the main one or a sub-conclusion is to ask what overall point the arguer seems to be making. Then, the coherence or otherwise of your reconstruction will help confirm whether this is right or not.

The passage below is a complex argument found in investigative journalist and author Naomi Klein's article 'Golf Oil Spill: A Hole in the World', about the Deepwater Horizon disaster in the Gulf of

Mexico in 2010. Quoting from BP's risk assessment prior to the spill she says,

> Best of all, should a major spill occur, there is, apparently, 'little risk of contact or impact to the coastline' because of the company's projected speedy response (!) and 'due to the distance [of the rig] to shore' – about 48 miles (77km). This is the most astonishing claim of all. In a gulf that often sees winds of more than 70km an hour, not to mention hurricanes, BP had so little respect for the ocean's capacity to ebb and flow, surge and heave, that it did not think oil could make a paltry 77km trip. None of this sloppiness would have been possible, however, had BP not been making its predictions to a political class eager to believe that nature had indeed been mastered. Some, like Republican Lisa Murkowski, were more eager than others. The Alaskan senator was so awe-struck by the industry's four-dimensional seismic imaging that she proclaimed deep-sea drilling to have reached the very height of controlled artificiality. 'It's better than Disneyland in terms of how you can take technologies and go after a resource that is thousands of years old and do so in an environmentally sound way,' she told the Senate energy committee just seven months ago.[12]

A plausible reconstruction requires a sub-conclusion (as well as an implicit premise):

P1: When presented with the industry's four-dimensional seismic imaging, Republican Lisa Murkowski the Alaskan senator proclaimed deep-sea drilling to have reached the very height of controlled artificiality. She told the Senate energy committee just seven months ago, 'It's better than Disneyland in terms of how you can take technologies and go after a resource that is thousands of years old and do so in an environmentally sound way.'

P2 (implicit): A statement like the one in P1 is typical of a political class eager to believe that nature had been mastered.

C1: The current political class is eager to believe that nature had been mastered.

P3: BP erroneously claimed that should a major spill occur, there is 'little risk of contact or impact to the coastline'.

P4 (implicit): The sloppiness of BP's 'initial exploration plan' can only be explained by a political class eager to believe that nature had indeed been mastered.

C2: BP were allowed to become sloppy in their planning because it had been making its predictions to a political class eager to believe that nature had indeed been mastered.

Klein is relying on her claim about the eagerness of the current political class to believe that nature had been mastered to support her final conclusion that this is the reason for BP's sloppy risk assessment. Since she is not claiming that BP's sloppiness is the cause of this political attitude, then the two conclusions here must fall in the order presented above.

Arguments that are not chained in this way are known as convergent arguments. With convergent arguments separate claims serve to reinforce a single conclusion, so the basic structure is simply:

P1:
P2:
P3:
Etc.
C:

A basic example might be:

> Because it's environmentally friendly, cycling to work is a good thing to do. It also saves money, is good for your health, and helps you feel alert and energised at the start of the day.

Reconstructed:

P1: Cycling to work is environmentally friendly.
P2: Cycling to work saves money.
P3: Cycling to work is good for your health.
P4: Cycling to work helps you feel alert and energised at the start of the day.
C: Therefore cycling to work is a good thing to do.

Convergent arguments can be identified by phrases such as 'Another reason is this …'; or 'Also in support of this …', but these will not always be present. A better test is to see whether the argument retains its coherence no matter what order the premises come in.

THE PRINCIPLE OF CHARITY

It should be clear from the preceding discussions and examples that argument reconstruction cannot always be that accurate. Our efforts will often be provisional; the equivalent of saying in a dialogue 'So is *this* what you mean …?' But since the person is not present to consult, then the recommended language is more like 'If this is what X means' or 'If I've understood X correctly … then this is what the argument looks like'. It indicates that you cannot always be sure that you have grasped what the other person wants to say, and that the true meaning of the argument and its intention rests with them. This connotes the respect and modesty that were discussed in Chapter 3.

In this vein it is also important to attempt to reconstruct the best (plausible) version of what we are presented with. In the choices that we make concerning (1) the translation of non-statements into statements; (2) the inclusion of implicit premises; (3) disambiguation; and (4) making precision out of vagueness, we should aim to put the argument in the best light we can. This form of giving the benefit of the doubt has been called the **principle of charity**, and the main reason for employing it is summed up by Johnson and Blair in this way:

> The idea is that since (normally) an author will be *trying* to make logical arguments, it follows that if, in interpreting a passage, we reconstruct the most logical argument we can make it out to contain, then that probably will be the argument the author intended to make. (2006, p.15)

Enshrined in this principle is the truth-seeking disposition rather than an attitude to critical thinking that sees it as a means of winning or gaining superiority over others. To return to where we started in this section, being motivated by winning will make us vulnerable to generating straw man (and iron man) arguments.

4.4 SUMMARY

The art of argument reconstruction involves several skills: identifying premises and conclusions; rewording (e.g., of relevant information not originally provided in the form of propositions, or of ambiguous or vague claims); teasing out implicit premises and conclusions; reordering of premises and identifying sub-conclusions. All of this should be carried out in the spirit of charity because the objectives are truth, honest agreement, and constructive dialogues, rather than

point-scoring. Avoiding misrepresenting someone's position (**straw man arguments**) is of primary importance, and in this respect argument reconstruction is associated with the too-often overlooked disposition to *carefully and respectfully read, or listen to, what others have to say*. The effective evaluation of arguments – the central theme of the rest of this book – is only possible if we have properly understood them.

DISCUSSION QUESTION

The case is made in this chapter for straw man arguments always being fallacious, but is this necessarily the case? Are there circumstances in which it is acceptable to distort someone else's position in order to make it easier to argue against? Two short articles that make a case for this view are by Aikin and Casey (2011, 2016).

EXERCISES

Making use of the techniques explained in this chapter, reconstruct the following arguments:

1. The following letter is in response to the UK Government blocking a proposed energy saving public information campaign in the face of increasing bills and possible gas shortages in the winter of 2022:

   > When we have a medical problem we seek advice from a doctor. If there is a legal problem we consult a solicitor. When there is a national crisis – the energy crisis – surely the government should issue guidelines to mitigate the impact of this on the population. (Letter to the *i* newspaper, 10.10.22)

2. The use of food banks in some parts of the UK has seen a rapid increase since the Tory government came into power and introduced benefit cuts. Some Tories say that food banks are part of the welfare state, but food banks are charities and separate from the welfare state. They are a sign that the welfare state is failing. (Adapted from MP Mhairi Black's maiden speech in the House of Commons (UK), 14.7.15.)

3. Recently I was knocked off my bicycle by a van coming out of a side road. I was concussed, despite wearing a cycle helmet,

> which was damaged by the impact of hitting the road. At the hospital, doctors suggested that, without the helmet, I could have died, or at least been in intensive care. And yet there seems to be considerable resistance in some cycling groups to any law requiring the wearing of helmets. Ministers have said it would be impossible to enforce such a law, but couldn't the same argument apply to seatbelts? It is not difficult to see who is wearing a helmet. In Australia, it is illegal to ride a bike or for a child to use a scooter without a helmet. Cyclists have accepted this law. Are Australians more law-abiding than we are? Head injuries cost the NHS a considerable amount of money. I fail to see why helmets are required for motorbikes and not on bicycles, as the head injuries can be much the same. (Letter to the *Daily Telegraph*, 8.4.11)

FURTHER READING

- For exercises on visual arguments see Morrow and Weston (2011); and Lunsford and Ruszkiewicz (2010).
- For an instructive article about straw man and iron man arguments see Aikin and Casey (2016); and for some important insights into the motivations behind straw man arguments see Tannen (1998), especially Ch.1.

NOTES

1 The good-natured and informative *Start the Week*, BBC Radio 4, 14.9.20.
2 Hooven, C. *Testosterone* (Cassell, 2021).
3 Saul Goodman knows a thing or two about iron manning his clients. Be aware that the term 'steel manning' has also been coined; not as an alternative to 'iron man' but with the same meaning as the principle of charity (see above).
4 Some good examples are Johnson and Blair (2006); Scriven (1976); Bowell and Kemp (2015); and Morrow and Weston (2011).
5 Available at: www.africa.upenn.edu/Articles_Gen/Letter_Birmingham.html
6 Berk, L. *Infants, Children, and Adolescents*, 7th Ed. (Pearson International Edition, 2010), p. 74.
7 The Guardian, 29.8.15

8 IPCC (2018) *Global Warming of 1.5°C*, p. 258. Available at: www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_Full_Report_LR.pdf
9 Painter, J. *Climate Change and the Media* (I.B. Tauris, 2013).
10 I am wary of using visual argument for reconstruction and evaluation because the skill required is more one of interpretation than reconstruction, but at the end of the chapter you will find some suggestions for good critical thinking books that do go down this path.
11 Letter to *The Guardian*, 27.9.14
12 Klein, N. (2010) Gulf Oil Spill: A Hole in the World [Article]. Available at: www.theguardian.com/theguardian/2010/jun/19/naomi-klein-gulf-oil-spill

5

ARGUMENT FORMS AND FALLACIES

> [Fallacies] are like bad habits. They are hard to break. (John Woods, 2013, p.5)

In this chapter we will begin to explore the various types of arguments that have been identified by informal logicians and critical thinking scholars, and take an initial look at the types of fallacies (poor arguments) that are associated with them. There are numerous ways of classifying arguments, and here I will explain two that are important to know about: deductive, inductive, and plausible arguments; and argument forms (or 'schemes').

5.1 DEDUCTIVE, INDUCTIVE, AND PLAUSIBLE ARGUMENTS

DEDUCTIVE AND INDUCTIVE ARGUMENTS

In books on logic, and some books on critical thinking, you will find discussion of deductive and inductive arguments. My view (and also the view of Scriven (1976) and Johnson and Blair (2006), among others) is that learning about this distinction is of limited value outside

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of formal logic. However, because I do believe this categorisation has some value for the effective communication of arguments, and because they are frequently mentioned and discussed elsewhere in the field, I will devote some space to them.

A **deductive argument** is one which attempts to provide a line of reasoning in which the conclusion is necessarily deduced from the premises, for example:

P1: Either the Earth has remained in a static state, or it has changed form due to tectonic shifts.
P2: The Earth has not remained in a static state.
C: Therefore the Earth has changed form due to tectonic shifts.

A successfully structured deductive argument is known as a **valid deductive argument**, and valid deductive arguments are what Douglas Walton calls 'airtight' or 'truth preserving' (1989, p.115). If the premises are true, the conclusion is guaranteed to be true. If a person accepts the premises of a valid deductive argument, then they must also accept the conclusion because the truth of the conclusion can be logically deduced from the truth of the premises. The argument above claims that there are only two options that could be true. If this claim is true, and one option is then rejected, the remaining option must be the case.

Notice though that the validity of a deductive argument is entirely to do with this logical relationship between premises and conclusion, and has nothing to say about the actual truth of the premises. The following argument is deductively valid:

P1: Donald Trump says that voter fraud lost him the 2020 presidential election.
P2: Everything Donald Trump says is true.
C: Therefore voter fraud lost Donald Trump the 2020 presidential election.

But since the second premise is not true, the truth of the conclusion cannot be guaranteed. If presented with this argument we wouldn't challenge its logic, but rather the truth of its premises.

A valid deductive argument with true premises (and therefore a true conclusion) is known as a **sound** argument, and it is the strongest

type of argument there is. If you can convince someone of the truth of your premises, and the argument has a valid deductive structure, then they have no option but to accept your conclusion.

An **inductive argument** on the other hand lacks this airtight quality. An inductive version of the above argument might be:

P1: Either the Earth has remained in a static state, or it has changed form due to tectonic shifts.
P2: As far as the evidence goes, it seems the Earth has not remained in a static state.
C: Therefore the Earth has changed form due to tectonic shifts.

In this form the conclusion does not *necessarily* follow from the premises – unlike valid deductive arguments it would not be a contradiction to reject the conclusion whilst accepting the premises.

The reason why I and other critical thinking scholars are not inclined to take this distinction too seriously, however, concerns the ease with which an inductive argument can be turned into a deductive argument, and vice versa. As Michael Scriven says,

> A slight juggling of the premises (by adding some unstated ones) and the conclusions can always convert an inductive argument into a deductive one without any essential loss of the 'point of the argument'. (1976, p.34)

Take this argument:

P1: If the well is poisoned, then Lassie is probably dead.
P2: The well is poisoned.
C: Therefore Lassie is dead.

In this form it is inductive, but if we include the word 'probably' in the conclusion it becomes deductive:

P1: If the well is poisoned, then Lassie is probably dead.
P2: The well is poisoned.
C: Therefore Lassie is probably dead.

Rather than use the first version we are better off using the second, but in both cases we know that the strength of the argument depends on the truth or falsity of the premises.

If, on the other hand we are presented with a deductive version along these lines we are in the same position:

P1: If the well is poisoned, then Lassie is dead.
P2: The well is poisoned.
C: Therefore Lassie is dead.

We can accept that if the premises are true then the conclusion must also be true, but this is trivial. What matters, again, is the truth or otherwise of the premises, and we will demand (or seek) evidence of this before we accept that Lassie is dead.

A more pressing concern for critical thinking is appreciating the context in which an argument is put forward. Scientific discovery is usually seen as a process whereby careful observations are used to predict outcomes in similar situations towards developing a theory to explain the phenomenon in question. However, no matter what the theory's current success is in predicting results, scientists recognise that it is possible for it to be proven wrong by subsequent findings. In this sense it has been known as an inductive approach; the kind of deductive proofs available to mathematicians and logicians do not apply to empirical investigations. Assessment of the inductive approach is often linked to an analysis of generalisations, and more will be said on this in Chapter 8.[1]

PLAUSIBLE ARGUMENTS

Understood in this way the deductive/inductive distinction is important, not for distinguishing essentially different forms of argument, but different realms of knowledge and their associated standards of correctness. If maths and science exemplify deductive and inductive reasoning though, how are we to understanding the many other contexts of professional, personal, and civic life in which reasoning plays a part? Many factors become relevant here, such as how important the decision is, how urgent, whether the situation is simple or complex, familiar or unfamiliar, the limitations of the expertise of the people involved, and so on. It is very much this territory that critical thinking is interested in, and that the rest of this book is devoted to exploring.

In recent decades Douglas Walton (1995, 2001, 2006) has provided a characterisation of everyday argumentation in terms of what are called **plausible arguments** (also known as 'presumptive', 'defeasible', or 'abductive' arguments). These are sometimes explained as a third alternative to deductive and inductive arguments, but it is perhaps more helpful to understand them as representing a style of reasoning that functions quite efficiently for certain types of decision-making. Plausible arguments are characterised as:

1. Making claims based on what is reasonably or normally expected in familiar situations.
2. In so doing, shifting the **burden of proof** to any claim that contradicts the one being made.
3. But always recognising that the conclusion drawn is *provisional* in nature; that is, open to being proven wrong should the case in question turn out to be other than what would normally be expected.

Plausible arguments are highly pragmatic. They operate in situations where decisions need to be made fairly quickly, often in the absence of precise information, but in circumstances that are generally familiar. As Walton (2001, p.156) puts it, they 'move a dialogue forward'. Unknowns and unique features are acknowledged but, vitally, a decision of some consequence must be made. Put another way, plausible arguments operate in situations in which we commonly find ourselves. They can take a deductive or inductive form, but always implied is something along the lines of 'according to available data', 'according to available expertise', 'the committee are inclined to believe that', or 'our best guess is'.

To put a slightly more hopeful twist on the previous example, faced with a dog that seems under the weather, and a rumour that the well that filled its drinking bowl is poisoned, you make a quick decision based on the information available to you and rush her to the vet. One way to set out this argument is:

P1: The well might be poisoned.
P2: Lassie usually drinks well water.
C: We better take her to the vet.

This is an example of an **enthymeme**, and could be shorthand for either a deductive or inductive argument. A deductive version might be:

P1: If your dog looks unwell and there is at least some reason to believe its water source is poisoned then the best course of action is to rush it to the vet.
P2: Lassie looks unwell and there's a rumour that toxins from fracking fluid have been polluting the local groundwater.
C: Therefore the best course of action is to rush her to the vet.

There will likely be details of this situation relevant to the conclusion you reach that can be worked into the argument, but whatever its content the formulation can always be deductive. That the conclusion must be accepted if the premises are accepted should be now be clear enough to other discussants, in which case any disagreement will focus on the plausibility of the premises.

With this in mind, the primary trajectory of critical thinking has been towards more helpful ways to categorise and assess plausible arguments. The remainder of this chapter is an overview of this approach.

5.2 ARGUMENT FORMS AND FALLACIES

The value of understanding the nature and prevalence of plausible arguments is that it can sensitise us to the presence of a range of argument forms – and their associated fallacies – that are commonly employed in everyday decision-making. It is to the classification and analysis of such arguments that many books on critical thinking devote themselves, and this will be the focus of much of the rest of this book too.

Examples of argument forms (sometimes referred to as 'argument schemes') include 'arguments from authority', 'arguments from analogy', 'causal arguments', 'generalisations', and 'ad hominem arguments'. Argument forms like these will often be recognisable to you, and this is to be expected since critical thinking is about how we think and argue in everyday situations. It provides the tools for assessing different argument forms, and reveals, among other things,

how psychology can explain our vulnerability to fallacious versions of them.

The study of argument forms emerged from the study of fallacies. Traditionally in logic, and then in informal logic, space was devoted to a selection of named fallacies, derived initially from Aristotle's 'Sophistical Refutations' (a section of his work on logic, the *Organon*). In terms of practical reasoning, however, it became apparent that it is not always fallacious to argue in these ways; not always irrational or foolish to reach decisions on the basis of arguments from authority, analogy, the character of the arguer, and so on. Establishing criteria for determining the strength of an argument conforming to a particular type became the focus of many critical thinking scholars' efforts, and these criteria are primarily expressed in terms of what are called **critical questions**. I will say more about these shortly, but will first consider the notion of fallacies in more detail.

A fallacy is defined by Trudy Govier (2018, p.273) as a 'mistake in reasoning... that occurs with some frequency in real arguments and that is characteristically deceptive'. A fallacious argument is one that is not only bad, but bad in a way that:

1. Conforms to a recognisable type of error that we are prone to make when constructing arguments.
2. Tends to create the (superficial) impression of being a good argument.

Fallacies are, in short, poor arguments of certain kinds that are used frequently and are liable to be convincing to those not thinking critically. A bad argument that conforms to a certain pattern but that is not particularly deceptive is still a fallacy, but the 'liable to be convincing' clause remains an important component of the definition. One reason is that we often argue fallaciously without realising we are doing so, indicating that, in the moment at least, we think the argument is strong. And if we are deceived, some of our audience are likely to be as well. A second reason is that, since there are many fallacies, any given class or textbook must make choices about what to include and what to prioritise. A sensible criterion for inclusion is a fallacy being 'characteristically deceptive' since these will be the more disabling ones in processes of decision-making.

This book has defined critical thinking in terms of the attempt to avoid reasoning errors, so identifying fallacious arguments is clearly central to its purpose. As the previous discussion has indicated though, fallacies need to be distinguished from argument forms, and this is made harder because, for historical reasons, they tend to share the same names. You will still find books and teachers that refer to arguments from authority, arguments from popular opinion, slippery slope arguments, appeals to emotion, ad hominem arguments, and so on, simply as 'fallacies'. In nearly all cases, however, this is not the right way to understand them, and therefore not the right terminology to apply to them.

The approach of this, and many other, critical thinking textbooks is to analyse argument forms, and (among other things) to determine critical questions that should be applied to them in order to establish how good a particular instance of that argument is. In this context the word 'fallacy' takes on two, more subtle, meanings:

1. A particularly poor instance of an argument form is often called a 'fallacious ad hominem argument', 'fallacious argument from analogy', and so on. Alternatively, they can be called 'weak' or 'poor'; the terminology does not need to be that precise.
2. There are some argument forms that are always weak or just plain wrong, in which case the term 'fallacy' can be applied more freely. A **straw man argument** is often unproblematically just referred to as a straw man fallacy; and a **circular argument** denotes a distinctively fallacious form of reasoning (see Chapter 10). There are also fallacies that are so common or distinctive that they acquire their own name despite being an erroneous version of a particular argument form. For example, 'confusing correlation and cause' (rather than 'fallacious causal argument') names a collection of fallacies that can be committed when constructing a causal argument (see Chapter 8).

5.3 CRITICAL QUESTIONS

'Critical questions' are the questions that are important to ask in order to establish the strength of an argument. There are two kinds: (1) general ones that can be applied to most arguments; and (2)

specific ones that are relevant to particular argument forms. Some characteristics of critical questions to be aware of are these:

1. There is no definitive list either of the general or the specific questions, and you will find some variation across different textbooks.
2. Where a list is prescribed, judgement is needed on behalf of the critical thinker to determine which of the questions to apply, and whether some should have priority over others. As always with critical thinking, the context of the argument is a vital guide to how we go about analysing it.
3. Some critical questions will seem to be common sense, others less so. Sometimes, by paying attention to them, we might be doing little more than reminding ourselves of how we would intuitively interrogate an argument, but there will also be occasions where we will learn new interrogative techniques and gain new insights into the nature of the argument form under scrutiny.

GENERAL QUESTIONS

Perhaps the best starting place for critical questioning is to ask yourself:

- What kinds of questions would you ask about any or most claims in deciding whether or not to believe them, or at least find them plausible enough to act on?

Or

- What kinds of questions would you ask about this particular claim in deciding whether or not to believe it, or at least find it plausible enough to act on?

These initial or 'meta-questions' are beautiful in their simplicity, and they are the hallmark of a critical thinker. They imply appropriate perspective and a willingness to take responsibility for selecting the tools of one's evaluation. (Before reading on, it is a worthwhile task to apply your mind to the first of these questions and to start generating a list of basic critical questions.)

Ralph H. Johnson and J. Anthony Blair (2006) identify three basic critical questions, otherwise known as the 'Acceptability, Relevance, Sufficiency' criteria (generating the slightly unfortunate acronym ARS). **ARS criteria** are briefly explained in Box 5.1.

BOX 5.1 BASIC CRITICAL QUESTIONS

1. Are the premises *acceptable*, i.e., likely to be true, or likely to be accepted as true or plausible by the people one is attempting to persuade?
2. Are the premises *relevant* to the conclusion the arguer is seeking to establish?
3. Are the premises *sufficient* for establishing the conclusion?

These questions are theoretically independent of one another. A premise can be acceptable but not relevant, or relevant (if true) but not acceptable, and even if all premises are acceptable and relevant, they might not be sufficient by themselves to persuade us of the truth of the conclusion. However, in practice, if a premise is ruled out because it is not acceptable then its relevance is of no consequence, and it cannot be sufficient for establishing the conclusion. For this reason, acceptability should be the first question that is posed.

So, for example, it might be claimed that voluntary euthanasia should not be legalised because all killing is wrong. This premise, if true, will be relevant to the conclusion, and because euthanasia is undoubtedly a form of killing, sufficient for establishing the conclusion as well. However, many will counter that not all killing is wrong, especially not a mercy killing carried out on the basis of someone's valid consent. In this case they will find the argument unconvincing because the premise is unacceptable. Someone else might argue that euthanasia is wrong because it contravenes a religiously derived prohibition on suicide. In response to this it could be argued that religious prohibitions are not relevant in a modern secular society. Or it could be argued that even though mercy killing is permissible, this is a *necessary, but not sufficient* reason (see Box 5.2) for legalising euthanasia. Possible abuses of the law, and old and terminally ill people feeling

that they should die so as not to be a burden on relatives, are potential consequences of legalisation that could outweigh the moral merits of allowing people to choose to end their suffering.

BOX 5.2 NECESSARY AND SUFFICIENT CONDITIONS

In logic, the concepts necessary and sufficient conditions are important. A necessary condition for something is one that is essential to it – such as having a ball (or ball substitute) being necessary for playing a game of football. Having sufficient conditions means, simply, that everything needed for something to be the case has been provided or established. Sometimes some of these conditions are also necessary conditions, but not always. Playing football on a Tuesday night is sufficient to keep me happily occupied for an hour, but many other things could fulfil this role as well.

Box 5.3 shows how each of these fundamental questions can be connected to a range of possible sub-questions (many of which we will look at in detail in subsequent chapters).

BOX 5.3 BASIC CRITICAL QUESTIONS AND SOME EXAMPLES OF SUB-QUESTIONS

1. Are the premises acceptable, i.e., likely to be true, or likely to be accepted as true or plausible by the people the arguer is attempting to persuade? For example:
   - Are the claims being made clear?
   - Is appropriate evidence cited in support of the claims being made in terms of quantity and quality. For example, where experts are cited, are they the right experts? Do they represent a consensus in their field?
   - Is the author biased in a way, or to an extent, that should make us question the objectivity of the evidence presented?

- Are any of the claims inconsistent with one another?
- Have opposing positions been accurately represented?

2. Are the premises relevant to the conclusion the arguer is seeking to establish? For example:

   - Has the appropriate kind of evidence been presented? For example, what the general public think about who should govern them is relevant to who should govern them, but what they think the consequences of a 4-degree global temperature rise will be is not relevant to what these effects will actually be.
   - Where analogies are employed, are they similar enough to the issue being discussed to allow us to reach conclusions based on those analogies?

3. Are the premises sufficient in order to establish the conclusion? For example:

   - If the conclusion is a generalisation, is this one that can be supported by the evidence provided?
   - Has relevant information, or have relevant perspectives, been over-looked?
   - What alternative conclusions can be drawn from the evidence?

Returning briefly to deductive arguments, notice that a sound argument is the strongest kind because it fulfils all the ARS criteria. A valid deductive argument that is not sound (where at least one of the premises in untrue) meets the relevance and sufficiency criteria, but not acceptability.

QUESTIONS SPECIFIC TO PARTICULAR ARGUMENT FORMS

On a British political analysis TV programme in 2015 the possible repeal of the fox hunting ban in Britain was being discussed.[2] Rock guitarist and animal welfare activist Brian May wanted to retain the ban, arguing that it is not a sport and that it is cruel. Former front-bench politician Michael Portillo agreed that it is not a sport but was in favour of repealing the ban because the state should respect certain traditions, even if viewed by others as distasteful or cruel. He is no fan

of bullfighting, but said that the argument would extend to allowing this tradition to be maintained as well. At this point Brian May and the host – experienced journalist Andrew Neil – retorted that the same argument could apply to witch hunts (May) and bear baiting (Neil). Portillo said that it couldn't, that these were different, and at this point the discussion had to end because they had run out of time.

What we have here is an example of an **argument from analogy**. They are commonly used and often quite weak, but even when they are weak they can be significantly persuasive. They are, then, important to analyse and will be the subject of Chapter 9, but for the moment I am going to preview this discussion and use them as an example of specific critical questions.

The basic structure of an argument from analogy is this:

P1: X is similar to Y.
P2: Z is true of Y.
P3: Therefore Z is also true of X.

In the case of Andrew Neil's argument, X, Y, and Z can be filled in like this:

P1: Fox hunting as a tradition is similar to bear baiting as a tradition.
P2: Bear baiting was banned.
C1: Therefore fox hunting should also be banned.

Four of the critical questions that can be applied to arguments from analogy are these:

Q1: Is what is said of Y actually true (or plausible)?
Q2: Are there relevant similarities between X and Y?
Q3: Are there dissimilarities between X and Y that undermine the similarities?
Q4: Can convincing counteranalogies be found?

Applied to Neil's argument the likely answers – i.e., the basis for further research, or what we would put back to him if we were in Portillo's shoes – are these:

1. This is true; bear baiting was a tradition in England until the nineteenth century.

2. There are some relevant similarities; most obviously that both involve harming animals (including the dogs in bear baiting) as a necessary part of a practice from which people derive recreational pleasure.
3. It would appear that there could be sufficient dissimilarities to undermine the similarities. For the sake of this example it is not appropriate to go into much detail, but the degree of cruelty, the degree of human skill and courage involved, and the victim having a sporting chance, are among several that differentiate the two practices.
4. Portillo mentioned the counteranalogy of bullfighting, but this is not as strong as it might be since there is also a lot of support for banning this. Alternative comparisons are other traditional forms of hunting (deer, grouse, etc.) that are less controversial.

The first three critical questions tend to be where our basic rationality will take us when encountering arguments from analogy, but I think that the fourth one is slightly less intuitive, and it is also the hardest one to answer since it involves a lot of imaginative work. However, even if all four are relatively obvious, familiarity with a list like this – questions that have been broadly agreed upon by a range of scholars – gives us some confidence that these are the angles we need to pursue in the discussion.

Clearly this is just the start of a long debate (which is itself just one part of the discussion around fox hunting), but knowing the basic questions to pose once an argument from analogy has been identified is a good start, and one that has the potential to lead the exchange along constructive lines.

Returning to the ARS criteria, notice that critical question Q1 for arguments from analogy is a form of the acceptability criterion; Q2 concerns relevance; and Q3 and Q4 question the sufficiency of the premises.

CRITICAL QUESTIONS AND IMPLICIT ASSUMPTIONS

In the previous chapter, on argument reconstruction, we discussed the importance of making implicit premises explicit. This helps ensure that we do not overlook assumptions the arguer is making that need to be justified. Identifying argument forms in reconstructions is also about making implicit assumptions explicit.

An argument commonly voiced during the 2015 Eurozone crisis (caused by Greece defaulting on a major debt repayment) was that if Greece leaves the single currency then other countries will follow, leading to the collapse of the Eurozone. This is a version of a **slippery slope argument**, one in which it is claimed that a relatively small and containable happening will inexorably lead to a series of events that ends in disaster (for more on this argument form see Chapter 8). In the process of identifying something as a slippery slope argument three assumptions are being made: (1) a specified sequence of cause and effect is likely to happen; (2) if it does it will be beyond the control of relevant parties to put a stop to; and (3) the final consequence will be significantly negative. These then generate critical questions that examine the likelihood of the sequence of events occurring, whether it really will be unstoppable once it has started, and whether the final consequence is in fact disastrous.

In a similar way, the formal structure of many argument forms contains a premise which makes an often implicit assumption explicit. An **argument from authority**, for example (see Chapter 6), such as

> Richard Dawkins says that the world would be a better place without organised religion, therefore it is likely that the world would be a better place without organised religion.

Would be fully reconstructed as:

P1: Richard Dawkins says that the world would be a better place without organised religion.
P2: Richard Dawkins has relevant expertise on the history, politics, and ethics of organised religion.
C: Therefore it is likely that the world would be a better place without organised religion.

P2 is the implicit premise that, when made explicit, clearly reveals the argument as an argument from authority. With respect to the guidance on reconstructing enthymemes offered in Chapter 4, it might well be unnecessary or inadvisable to fully reconstruct the argument in this way in many situations, but it can certainly be helpful to the process of making clear one's critique of a position that relies on Dawkins' authority on this matter.

5.4 SUMMARY, AND THE WIDER ANALYSIS OF ARGUMENT FORMS

This chapter began by exploring the nature and significance of deductive, inductive, and plausible arguments. Emphasis on the latter explains the value of analysing the wide variety of commonly used **argument forms** (or schemes) and the role of **critical questions** as a tool for evaluating them.

The argument forms and associated fallacies that will be discussed in subsequent chapters have been selected because they are particularly prevalent across a wide variety of contexts. Most of them are also what I would call 'interesting' in the sense that an analysis of them can open up deep and wide considerations about the human condition and about oneself. They can, you might say, serve as a portal into the themes underpinning this book: rationality and persuasion, dispositions, and constructive dialogues. From a study of the argument forms we commonly use and the ways in which they can go wrong we can learn a lot about, not just argument reconstruction and evaluation, but our character and the way we interact with others. For example, fallacies are, as John Woods puts it, 'like bad habits … hard to break' (2013, p.5), and it is their link to biases and heuristics that helps explain, not just why this is the case, but why certain argument forms and fallacies are as frequently employed and as seductive as they are.

It is with this in mind that the argument forms and fallacies featuring in Chapters 6–9 will be investigated in relation to the following themes and headings:

- Description and basic structure.
- Critical questions used to guide our evaluation of them.
- Their relationship to heuristics and the psychology of persuasion, or what might be called their 'rhetorical power'.
- Dispositions they are liable to foster, or to be a sign of, and their significance in terms of our pursuit of constructive dialogues.

EXERCISES

My view is that there is limited value in applying the ARS questions to relatively unfamiliar and decontextualised arguments, so instead of

providing some of these (as I did at the end of the last chapter), my recommendation is to select passages that involve arguments from topics and texts you are familiar with and apply the ARS critical questions to them. This could include:

- Other disciplines you are studying;
- Topical events and debates;
- Extended texts such as those recommended in this book;
- Essays and other assignments that you have written.

FURTHER READING

- Perhaps the most comprehensive directory of argument forms is Walton, Reed, and Macagno's *Argument Schemes* (2008); and a less comprehensive but more discursive book covering the details of a range of important argument forms and fallacies is Christopher Tindale's *Fallacies and Argument Appraisal* (2007).
- Two sources in which the Acceptability, Relevance, Sufficiency criteria are employed explicitly and with clarity are Johnson and Blair's *Logical Self-Defense* (2006); and Hughes, Lavery, and Doran's *Critical Thinking* (2010).
- If you would like to know more about deductive and inductive arguments some good sources are Bowell and Kemp (2015) and Ennis (1996a).

NOTES

1 Also, certain forms of deductive argument, and their associated fallacies, feature in Chapter 10.
2 *This Week*, 2.7.15

6

ARGUMENTS, SOCIAL POWER, AND MESSAGE SOURCE (PART 1)

> Facts come wrapped in authority. (Charles Willard, 1990, p.13)
> Arguments from authority are lame (Lee, Lifeson, and Peart, 1974; Scott, Thistlethwaite, and Wallinger, 1983; Amos, 1992; Hütz, Ryabtzev, and Lemeshev, 1999; Baker Jr. et al, 2014). (Sacha T. Burnstorm, pers. comm.)

Questioning the influence that power and authority have on our beliefs and actions is close to the heart of critical thinking. As we saw in the opening chapter, a leading motivation of Western philosophy, as epitomised by the Scientific Revolution and the Enlightenment, is to free ourselves from an uncritical frame of mind. Whether encouraged by social institutions or by our own dispositions, reclining in the comfort of conventional wisdom and its authority figures is typically seen as detrimental, both to individual well-being and to the wider culture.

In the context of argumentation, a common way of deflecting requests to justify one's beliefs is to appeal to an authority. By doing so we are implying: 'Argue with them, not with me', or 'Do you think you know better than authority X?' In the former case we are failing to take ownership of our belief, perhaps seeing ourselves as

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part of a larger system with which the responsibility lies. The implication of the second is that there are reasons for thinking authority X is indeed the right authority to base our beliefs on, and it is this reasoning that turns out to be the most important consideration for critical thinking.

Since we cannot become experts in all the fields that are relevant to the decisions we make in our personal and professional lives, reliance on authority is unavoidable. There are also plenty of circumstances where an unquestioning approach to authority is usually the best approach. The crucial thing is for us to know why this is the case; why X is the right kind of authority to help inform our beliefs on a particular topic, or why circumstance Y (a battlefield, medical emergency, restaurant kitchen during peak demand, etc.) is the place and time not to question orders. Modern analyses of arguments from authority recognise the limitations of an individual's knowledge and powers, and the critical questions they generate embody this understanding. In Johnson and Blair's words, 'we are urged to be filters of opinions rather than sponges who soak them up indiscriminately' (2006, p.167).

The flipside of appealing to authority in support of our positions is attempting to discredit those who oppose our beliefs. This can be because of their lack of expertise, their biased view on the subject, inconsistency between what they advocate and how they behave, or simply because of their undesirable character (or associations with other undesirable characters). All these forms of argument are known as **ad hominem arguments**, and are a main focus of the next chapter.

This chapter is about arguments in which either characteristics of the arguer, or people that the arguer refers to, constitute the main premise. It will stretch its net wider than arguments that appeal to or discredit expert authority, addressing several argument forms that rely on what has been called 'social power'. The concept of social power is a broad one, but generally refers to the ability of one person (or a collection of people) to influence another person (or collection of people). By influence is meant a change in behaviour and/or beliefs and attitudes.

In their widely employed analysis of the subject, social psychologists John French and Bertram Raven (1959) identified five types of

social power: legitimate power, expert power, reward power, coercive power, and referent power. A sixth type – information power – was later added by Raven (1965). Other theorists have suggested further categories and sub-categories, including **witness testimony** (which I am treating as a subtype of information power) and **ethotic power**.[1] These six original forms of social power, along with ethotic power and witness testimony as a sub-category are explained in Box 6.1 below, and it is these categories that will structure this chapter.

BOX 6.1 FORMS OF SOCIAL POWER

French and Raven's original categorisations

Expert power: The authority of someone who is an expert, and whose expertise is relevant to the issue at hand. We would thus take seriously the view of a well-respected scholar of twentieth-century European social and economic history on the origins of the European Union, but be more cautious about their pronouncements on ancient Egypt.

Information power: There are plenty of situations in which, though a person is not an expert, they do nevertheless possess knowledge that is pertinent and valuable to that situation. The blackmailer trades on information power, as does my wife when she hides the channel changer when the cricket is on TV. An important subdivision of information power is witness testimony, referring to someone being present at and observing a one-off event. In court cases the information power of a witness is of course very important for establishing truth.

Legitimate power: The authority conferred upon someone by virtue of the position that they hold (e.g., teacher, judge, parent, checkout worker) or 'some sort of code or standard accepted by the individual, by virtue of which the external agent can assert his power' (French and Raven, 1959, p.265). (Note that this second aspect is important but often overlooked – invoking human rights, whether or not you are a lawyer, is also an example of legitimate power.)

Reward power: Rewards come in many forms, from pay (e.g., the prospect of a bonus at work) to praise (e.g., compliments from a friend on a new hairstyle). Anyone able to influence the behaviour

of others through rewards has reward power, which extends this category beyond the positional and normative reach of legitimate power.

Coercive power: The power of someone who is able to punish someone who does not comply with a request or command. It is the opposite of reward power, but similar to it in so far as it can be held by someone without legitimate power.

Referent power: In contrast to the relatively impersonal legitimate and expert power, referent power is held by a group or person who you personally connect to. They demonstrate values and other qualities that are – or you would like to be – an important part of your identity. Without the need for requests, orders, or threats, you thus have a desire to conform to a group's or a person's norms, and in this way those norms have power over you.

An additional form of social power

Ethotic power: The power of a person who is regarded, in a general sense, as a 'good' person (or a virtuous or moral person). It is someone who, without reference to expertise, any position they occupy, or specific codes of conduct they adhere to, is of good character and serves as a role model.

'Power' is quite a general term that is flexible enough to be used in the ways that French and Raven do. 'Authority' is a more specific concept that tends to refer to an official or otherwise socially recognised sanctioning of someone's power. The line 'by the authority invested in me …' captures this objective quality, and it thus makes sense to talk about 'legitimate authority', 'expert authority', and possibly 'ethotic authority', but less so to use it in relation to the other kinds of power. Other critical thinking textbooks usually concentrate on expert authority under the heading 'arguments from authority', but because the perspective here is wider, both power and authority become relevant (and sometimes interchangeable) terms.

Before moving on to discuss these in detail, I will add a quick comment about the source or location of social power. Put briefly, a person's power does not simply reside in them independently, but

is actualised through being recognised or accepted by other people. My mother might be an expert on parenting, but her advice won't be heeded by me unless I acknowledge this. This dependency explains the importance of signalling power via, for example, uniforms and titles.

To sum up this introduction, we will consider whether and when it is justified to act, or to form beliefs, in accordance with sources of power with reference to two broad types of argument:

1. Positive arguments that claim that because a particular person believes or does X we should consider believing or doing X. These include appeals to **expert**, **legitimate**, and **ethotic** authority; arguments based on **information power** (including **witness testimony**) arguments based on **referent power** (a species of which is known as the ***ad populum*** argument), and arguments that are based on **coercion** (known as ***ad baculum*** arguments). Arguments from authority and power can either be referring to the authority/power of the person who is presenting the argument – the explicit or implicit message that you should take them seriously because of what they know, who they are, etc. – or they can be referring to a third person.
2. Negative arguments – otherwise known as **ad hominem arguments** – which claim the opposite: that because certain beliefs or actions are those of, or those associated with, a particular person, this counts as a reason for not believing or doing these things. These are sometimes called 'poisoned well' arguments, the metaphor referring to the source of the view being compromised (by lack of expertise, biased views, poor character, and so on) such that anything that springs from it carries this contamination.

6.1 ARGUMENTS FROM EXPERT AUTHORITY

Since it is not possible to find out everything for ourselves directly we have no choice but to include second-hand information in many of our rational deliberations. The question of *which* information to trust becomes the question of *who* to trust; the need for competence

in our assessment of expert advice. By 'expert' we typically mean someone who has undergone substantial education or training. They have considerable experience of working in their specialist field, and the level of their knowledge is often verified by qualifications, influence, and peer approval.

The basic structure for any argument that offers proof or evidence for a position by appealing to the expertise of the person or people supporting that position is this:

P1: X is an expert in the domain of Y.
P2: X believes that Z in relation to Y is true.
C: Therefore Z is true (or Z is plausible).

Other argumentation and critical thinking textbooks vary in the number of critical questions they list,[2] but I will organise the essential criteria for assessing this type of argument into four main questions:

Q1: Is the authority cited an expert in their field?
Q2: If so, is this field relevant to the issue under discussion?
Q3: If so, is the authority cited to be trusted?
Q4: If so, is the strength of the conclusion reached appropriate?

Each of these, though, is associated with a number of important sub-questions, and some of these will be discussed below.

THE NATURE OF THE EXPERTISE

Is the authority cited an expert in their field, and is this field relevant to the issue under discussion? If someone is a medical doctor and they are giving their opinion on a common bodily ailment, then we can say yes to Q1 and Q2. If they are making a claim about a psychological condition, then we need to be more cautious. This much is obvious, but if we are not concentrating we can easily be fooled. Not every historian is an expert on Scottish history, and not every Scottish historian is an expert on the Jacobite Risings, so if someone commenting on the Battle of Culloden is only introduced as a

'historian' or even 'Scottish historian', then we do not yet know if we are in safe hands.

Expert knowledge tends to be highly specialised, and this is why Q1 and Q2 are so important. However, we also need to recognise that generalist and interdisciplinary writing and research has a couple of vitally important functions:

- Most of the big issues affecting us (such as climate change, global inequality, the coronavirus pandemic) require multiple disciplinary perspectives to understand and formulate responses to them.
- Generalist writers (such as journalists) are often better at communicating these issues to wider publics than are specialists.

There is, then, an unavoidable trade-off between specialist expertise and a broader perspective, and we need to keep this in mind when assessing the value of blogs, columns, books, and documentaries which tackle big questions for non-specialist consumption (including any influence they might have on policymakers). The books of journalist and political activist Naomi Klein are good examples. Her 2014 work *This Changes Everything* combines climate science with ethics, politics, and economics. Few people, including academics, are expert in all of these areas, but it is entirely reasonable to argue that someone needed to write this book, and that that someone needed to be able to reach a large and broad audience. Klein's lack of formal expertise in climate science inevitably affects the book's credibility, but three factors help to limit its negative impact: (1) she is very open about the efforts she has made in the years researching the book to properly understand climate science and its implications; (2) she makes continual reference to multiple sources to support her arguments, and includes a large number of endnotes detailing their origin; and (3) in her many years as a journalist and writer she has gained a reputation for scholarly research and professional and personal integrity.

So, when asking questions about expertise we need to be sensitive to the limitations of specialist knowledge. We also need people willing to investigate more than one discipline and synthesise the findings of a range of experts in pursuit of solutions to serious and highly complex problems. Our evaluation of such efforts needs to be differently oriented; recognising, for example, that despite some of their claims

being more provisional than in narrowly focussed research, this does not necessarily detract from the larger picture they are presenting.

THE TRUSTWORTHINESS OF THE EXPERT

Indicators of an expert's trustworthiness include the extent to which their views on the issue are shared by their peers (consensus), the ways in which they appear to be applying their knowledge to the problem (judgement), and whether some form of bias might be compromising their objectivity. The question of bias will be considered under circumstantial ad hominem arguments (below), and in this section I will make some observations about consensus and judgement.

Consensus

In a radio programme[3] interviewing the world famous entomologist and founder of sociobiology, E.O. Wilson, Wilson defended his theory of group selection over the selfish gene theory of cooperative behaviour.[4] In this peak hour broadcast it was instructive to see how this complex debate was defended by both Wilson and his rival Richard Dawkins (who had also been interviewed on the subject). Most of the listeners would lack the expertise to be convinced one way or the other by the scientific arguments, so both relied significantly on arguments from authority. Wilson made the point that mathematical modelling disproved the selfish gene theory. He had little option but to spare us the maths, but did stress that his co-researchers were two well-respected Harvard mathematicians: Martin Nowak and the 'genius' Corina Tarnita.

Beyond this, it should be added, Wilson went some distance to explaining and defending his theory without reference to authority, but Dawkins was quite explicit about needing to use an argument from authority (something he said he generally dislikes doing) and simply pointed out that a reply to Wilson's paper elicited a damming response in the form of a letter to the journal *Nature* (who published Wilson's article) from 140 eminent evolutionary biologists. His argument came down to numbers: yes, Wilson is a leading authority in evolutionary biology, but on this issue he is vastly outnumbered by other experts. Who are you going to trust? The first part of Wilson's

response to this was to draw an analogy with a 1921 paper entitled 'One-hundred physicists against Einstein', which erroneously argued against the general theory of relativity.

It is also noteworthy that the rationale for the letter sent to *Nature* referred to above was to 'keep non-specialists from wasting time' on the theory, and that wasted time was a genuine concern because of 'Nowak's fame and *Nature*'s prestige'.[5] The non-specialists referred to would presumably include academics from other disciplines (such as psychology) and journalists, again underlining the risks associated with generalist and interdisciplinary writing and research. In the Klein case, discussed above, there appears to be enough of a consensus among relevant scientists about enough of the points she makes to maintain the thrust of her economic and political argument. But in the case of Wilson's theory, the non-expert would have to tread very carefully indeed, and the letter was intended as a warning to this effect; one that was perhaps seen as necessary because of various heuristics triggered by the big names involved.

Expertise and judgement

A different aspect of the trustworthiness of experts concerns the intellectual activity that contributes to their decision-making. For example, I may have every reason to have confidence in the expertise of my dentist, but if he recommends a certain (significant or drastic) treatment on a day in which he appears to be particularly harried or distracted it might well be sensible to not act on this until I see him again, or until I seek a second opinion. This highlights how expertise is not just about years of learning and practice, it is also about the judgements made which apply this experience to the matter at hand. Put another way, as a critical thinker our judgement on the expert authority of someone includes our consideration of *them* as a critical thinker. What to look out for in this respect is broadly covered by the critical thinking dispositions (see Chapter 3), and this can be condensed into the following critical question:

> Is the authority in question behaving in accordance with relevant critical thinking dispositions? (For example, are they attending carefully to the precise facts of the matter? Are they being open-minded rather than dogmatic when considering options?)

In some situations an additional relevant question might be (Goodwin, 2011, pp.293–4):

> What do they have to lose if they turn out to be wrong?

Of course, a learned practitioner might have developed some habitual weaknesses affecting their judgement, in which case the direct (or abusive) ad hominem argument can legitimately be employed against them. This will be discussed further under 'Arguments appealing to character'.[6]

THE STRENGTH OF THE CONCLUSION

The appropriate degree of confidence in an argument appealing to expert authority hinges importantly on whether the conclusion concerns a course of action, or whether it concerns what to believe. In the latter case an element of caution is often appropriate, but in cases where there is total consensus among experts the better approach is perhaps one of acknowledging one's distance: not 'X is true', but 'I have every reason to believe that X is true.'

We should now be applying this kind of language to our belief in anthropogenic climate change, but even if the IPCC were less sure than they are (for example, if it was 87% of scientists rather than 97%) the argument for *acting* as if it were true has a firmer conclusion:

P1: A clear majority of scientists believe that human activity is a significant cause of global warming, and that the consequences of global warming will be extremely serious.
P2: A clear majority of scientists believe that immediate reductions in carbon emissions will slow down global warming, leading to less severe consequences.
C: Therefore we need to act now to reduce carbon emissions.

This example also highlights the value of an extra critical question introduced by Christopher Tindale (2007, p.142):

> What are the consequences of accepting what the authority says, or ignoring what is said?

With climate change, if the experts are right then the consequences will be catastrophic, so we ignore them at our peril. For most of us at

least, the same cannot be said for authoritative views on the surface temperature of Venus, or the history of cricket.

EXPERT AUTHORITY: PSYCHOLOGY AND RHETORIC

It is unsurprising that psychologists have identified an 'expertise heuristic' which prompts us to jump to conclusions when expertise – or the appearance of expertise – is associated with an idea or product (Smith, Mackie, and Claypool, 2014, pp.248–9). In order to exploit these heuristics, a professional persuader will need to know who the trusted experts are for a particular audience, and they will need to know what the potent signifiers of expertise (or competence) are.

Once experts are known, persuaders can play on our tendency to erroneously generalise expertise (interrogated by Q1). For example, Carol Vorderman, an engineering graduate and TV presenter, originally made famous as the maths person on the UK game show *Countdown*, has been employed to lend scientific credibility to fish oil and other health products. Generalisation of this sort can be partly explained by the **halo effect**, i.e., assuming, without evidence, further positive qualities in a person on the basis of a few known positive qualities. (This discussed in more detail in Chapter 7, under ethotic arguments.)

Rapid message delivery, steady eye contact, and even face shape (Smith, Mackie, and Claypool, 2014) are among the many non-verbal and paralinguistic signs of expertise and trustworthiness. Owen Hargie (2017, p.372) identifies the 'Three Ts of expert power': titles (Professor, Doctor), threads (clothes, uniforms), and trappings (other signs such as framed degree certificates, shelves of technical books and journals, or specialist equipment). In a confessional moment in the TV series *Billions* the high-powered attorney Chuck Rhoades (played by Paul Giamatti) explains why he always wears a suit to social functions: he's short and relatively unattractive and doesn't want people asking, with respect to his glamourous wife, 'What's she doing with him?' The suit confirms his status, including the extent of his expertise and the legitimacy of his power.

A separate phenomenon regarding trust in experts concerns situations in which the scientific consensus is rejected by certain people or sections of a population (climate change and vaccinations

are current examples). The puzzle is that the intuitive answer – that such people are less scientifically literate or rational – is at best only a small part of the explanation. Research is now filling in the gaps, and some of this relates to a subsection of the cognitive biases and social dynamics discussed in this book. To go deeper into this complex and fascinating area there are references included in exercise 2 at the end of this chapter.

EXPERT AUTHORITY, DISPOSITIONS, AND CONSTRUCTIVE DIALOGUES

Kant pointed to 'laziness and cowardice' as

> The reasons why so great a proportion of men ... gladly remain in lifelong immaturity, and why it is so easy for others to establish themselves as their guardians. ... If I have a book to serve as my understanding, a pastor to serve as my conscience ... and so on, I need not exert myself at all. ([1784] 1963, p.35)

Why laziness can be a motivator to over-use expert appeals is clear enough, and cowardice refers to their role in avoiding direct accountability for our beliefs and decisions. If degrees of these vices can make us too keen on authority-based arguments, then an absence of modesty can have the reverse effect. The person lacking respect for authority is typically as closed-minded at the person with too much respect. In both cases, the fault lies with overreliance on limited sources – on oneself in the case of the immodest person, and on too few others in the case of the dogmatic traditionalist. In the latter case, open-mindedness would usually reveal that there are multiple authoritative points of view, and this knowledge alone should mitigate any tendency to confuse authority with truth. A balance is needed between excesses of independence and dependency, mediated by dispositions such as courage, open-mindedness, and modesty.

In terms of its effect on dialogues it has been claimed, reasonably, that 'to invoke authority is to abort debate' (Willard, 1990, p.18). The effect of an appeal to authority that is accepted by the other person is that it shifts the **burden of proof**. A matter is disputed, neither party is able to convince the other through other forms of argument, but Discussant 1 says that he has it on good authority that what he

is saying is the case. If enough of the criteria for a strong appeal to authority appear to be met, then the ball is now in Discussant 2's court. Discussant 1 is not only unconvinced by Discussant 2's argument, he has an authority to support his view, and so at this stage there is little more Discussant 2 can do but to research the views and relevant attributes of the authority in detail and/or find their own authorities in support of their view.

None of this is unconstructive so long as: (1) the argumentation process really has gone as far as it can under the circumstances; and (2) all participants understand the reasons why this is the case. In this way, frustration is avoided and the door is open for the dialogue to recommence. In an important sense, responsibility is shifted to authorities, but these critical thinkers retain control over the situation in a number of respects: they are responsible for finding the relevant authorities; for understanding them as far as they can; and, importantly, for recognising that an appeal to authority is the right way to proceed if any agreement is to be reached.

It should also be said that this information-seeking part of the discussion process need not be combative in the way implied here. There is no reason why all parties cannot jointly research the subject in order to make progress. Indeed, a willingness to do this suggests suitable open-mindedness and the collaborative process could itself lead to a softening of biases.

6.2 ARGUMENTS FROM POSITION TO KNOW (INFORMATION POWER)

The significance of information power is concisely expressed by Alan Brinton in this way:

> Sometimes another person has access to information or evidence which we do not have, either because it is inaccessible to us or because the demands of the situation make it impracticable for us to get it. (1986, p.255)

A corollary of information power in argumentation is arguments from 'position to know' (Walton, Reed, and Macagno, 2008). Being in a position to know is to have access to facts, whereas expertise refers to deep and broad knowledge of the field in which those facts

are located. Examples of position to know range from our local geographical and cultural knowledge (where the local library is, the best place to find job ads, how much, if at all, should we tip bar or restaurant staff) and basic procedures and norms of the workplace (who to send expenses forms to, how to address senior staff in an email), through to the boss who withholds or distorts information gathered at high-level committee meetings in order to maintain control over subordinates.[7] Altogether juicier examples include revelations about love affairs, corruption, illegal parties, and other immoral or criminal behaviours that are found in autobiographies, shared in confidence, haplessly revealed in TV interviews, leaked by whistle-blowers, or obtained through computer hacking.

Examples of position to know arguments are endless, and take us directly to some deep issues in ethical and political philosophy. Information power is employed by governments in undemocratic acts of propaganda, by civil servants who keep government ministers in the dark, and it exists in the unavoidable agenda-setting that goes on in news media. Information power can also be used benignly, and on occasion – like those who wish not to know the full details and extent of their terminal medical conditions – we can justifiably choose to remain ignorant.

An important consideration for the position to know argument is the difference between expertise and experience. Contrast, for example, knowing all about cancer from a scientific perspective and living through cancer; or between knowing about heartbreak from a literary and psychological point of view and having your heart broken. One way of appreciating the significance of this difference is in terms of the knowledge that qualitative research often seeks out. In its quest for expert knowledge it finds out about the first-hand accounts of people who have had certain experiences. Alternatively think of how news reporting typically combines the experiences of people at the sharp end of, say, welfare cuts or health service reforms, with expert economic or political analysis. It is important not to view accounts of experiences as provisional or otherwise inferior to theoretical understanding. For a number of reasons – including contextual and 'felt' qualities – it offers a distinctive insight into an issue, rather than one that is simply waiting to be replaced by a theoretical account.

The basic structure of position to know arguments is:

P1: X has access to knowledge about Y.
P2: X believes that Z in relation to Y is true.
C: Therefore Z is true (or Z is plausible).

The critical questions are similar to those of arguments from expert authority:

Q1: Is appealing to position to know appropriate in these circumstances?
Q2: If so, is X really in a position to know?
Q3: If so, is X trustworthy?
Q4: If so, is the strength of the conclusion reached appropriate?

Q1 is worthy of some elaboration, mostly in the form of sub-questions. First, we should ask whether this is information we are able to find out for ourselves, and if so, question our motives for relying on others (which might be entirely reasonable). Second, though, if someone or something is stopping us from finding out, does this prohibition have legal, moral, or normative (such as position-based, as in the case of a parent) legitimacy? If not, can we exercise legitimate powers in order to obtain the information (such as the Freedom of Information Act or a moral appeal)? But if so, is it worth the effort? (Or is it, for example, better to remain ignorant, or pay someone to inform us?)

Witness testimony

For certain kinds of news stories (including extreme weather events and terrorist attacks) news media rely heavily on **witness testimony**. Witness testimony differs from position to know in that it refers to situations where people experience an unusual event first-hand, and thus become valuable for establishing the truth about it. Position to know as a corollary of information power implies a degree of stability in the information's availability so that it is available to anyone who happens to be in a 'position to know'. The eyewitness, in

contrast, happens upon something through luck (or ill luck) rather than anything about them or their station in life. And that thing is in important senses a one-off, rather than something we can (or would want to) recreate.

As well as news reporting, eyewitness testimony can of course be important in court cases (it plays a pivotal role in *Twelve Angry Men*), the school playground ('Who saw what happened to Rory's lunch box?'), and many other circumstances. It is, however, notoriously unreliable in two interrelated respects:

- Mistaken beliefs: cognitive psychology has demonstrated that there tends to be a substantial gap between what we *confidently* believe we have seen and what actually happened.
- Lying: in circumstances were a person stands to gain from an event to which they are the only witness, the temptation will be there to distort or fabricate the truth. This can of course work at a subconscious level as well (see **rationalisation** and **cognitive dissonance** in Chapter 1), with the outcome of creating distinctly convenient mistaken beliefs ('The cat was already dead when I ran over it'; The person I saw with that good looking stranger in a dimly lit restaurant looked too young to be my wife'.)

In David Hume's famous essay 'On Miracles'[8] motivations like this are among the reasons he gives for why a sole witness to a supposed miracle should never be believed. In short, it will always be more likely that the person is mistaken or lying than that a law of nature has been contravened.

Miracles aside, and despite these problems, witness testimony remains important because it is sometimes all we have to go on. In order for us to have greater confidence in witness accounts, the following critical questions can be posed (based on Walton, Reed and Macagno, 2008, p.91):

Q1: Is what the witness says internally consistent?
Q2: Is what they say consistent with what is otherwise known about the event, including what others have said?
Q3: Is the witness liable to be biased? (In *Twelve Angry Men*, for example, it is suggested that one of the witnesses was motivated by the chance to testify in court and feel important,

rather than his genuine knowledge of events surrounding the murder.)

Q4: Is what they have said plausible? (In the case of miracles and UFOs it is presumably not.)]

Q5: Is the strength of the conclusion reached appropriate?

CIRCUMSTANTIAL AD HOMINEM ARGUMENTS

Arguments imputing bias in those who otherwise have expert or information power are known as **circumstantial ad hominem arguments.** Their basic structure is:

P1: X believes/advocates Y.

P2: X is biased in a way that could prejudice their beliefs/advocacy of Y.

P3: We should disregard/be cautious about the views of someone who could be biased in this way.

C: Therefore, we should disregard/be cautious about X's views on Y.

The UK's now concluded (in 2022) Independent Inquiry into Child Sex Abuse provides a noteworthy example. Provoked by the Jimmy Savile scandal, it was a wide-ranging investigation that included governmental level suspects stretching back at least to the 1970s. When it was set up in 2014 it was proving so difficult to find someone not linked to possible suspects for the role of chair that it was necessary to bring in a judge from New Zealand (Lowell Goddard). In this instance a series of strong circumstantial ad hominem arguments righty delayed the process by over a year.[9]

Rather less convincing was the foundational accusation of the documentary *The Great Global Warming Swindle* (Martin Durkin, 2007) that the scientists who have found evidence for anthropogenic global warming have, in fact, known for a long time that their views have been disproved. They maintain their defence of this view, though, in order to keep their lucrative positions on the Intergovernmental Panel on Climate Change. (Their view has, of course, not been disproved, and their position on the IPCC is voluntary and unpaid.)

The critical questions that can be applied to all types of ad hominem argument are these:[10]

Q1. It what is claimed about the person's ability, character, or circumstances true?
Q2. Is this attack relevant to the claim that the argument makes?
Q3. Where it is relevant, is the right kind of conclusion drawn from it? (For example, quite often someone's position is rejected outright on the basis of an ad hominem attack whereas at most it should be called into doubt.)

Towards the end of Martin Luther King, Jr.'s *Letter from Birmingham Jail*[11] is a circumstantial ad hominem attack that is harder to judge than the previous two examples. Here he pricks the conscience of America's white moderates by offering a theory for their lack of support for his methods. After explaining his reasons for the necessity of non-violent direct action he says:

> I had hoped that the white moderate would see this. Maybe I was too optimistic. Maybe I expected too much. I guess I should have realized that few members of a race that has oppressed another race can understand or appreciate the deep groans and passionate yearnings of those that have been oppressed, and still fewer have the vision to see that injustice must be rooted out by strong, persistent, and determined action.

The ad hominem argument in this passage, reconstructed in a summarised form, seems to be this:

P1: Most white moderates do not support our methods.
P2: Members of the oppressing race will typically not appreciate the psychological condition of the oppressed.
P3: White moderates are members of an oppressing race.
C1: White moderates will typically not appreciate the psychological condition of the oppressed.
C2: The white moderates are wrong not to support our methods.

Here the reasoning is that white moderates, unlike the oppressed blacks, are not in a **position to know**. Their experience makes them unable or unwilling to put themselves in the shoes of the people that

King, Jr. is leading, and as a result the right kind of belief or response is not to be expected.

If we apply the critical questions, Q2 can be answered in the affirmative since not being in a position to know (in the form of life experience), if true, is relevant to King, Jr.'s conclusion. Whether it is true though (Q1) is another matter; quite possibly it is, but this is not something that can be answered easily from a layperson's point of view. Since much of the rest of the speech is dealing with the white moderates' arguments, then this ad hominem attack cannot be rejected as simply crude or dismissive, and nor can the conclusion he draws from it. If the entire message had been based around an ad hominem argument of this type, however, then it would be fair to regard his, quite firm, conclusion as inappropriate (Q3).

INFORMATION POWER: PSYCHOLOGY AND RHETORIC

We tend to be impressed by first-hand accounts and to overlook the errors that actors and observers are prone to. Acting on them can be the result of the **availability heuristic** (see Chapter 1), and one reason for this – especially in the case of witness testimony – is that they have a narrative quality to them that is absent from statistics and other more abstract data. Reasons why stories can be so persuasive include their being concrete, personal, and moving, and thus more memorable. We find the details of particular human experiences engaging in a way that abstract reasoning tends not to be, which is why documentaries and books with serious messages trying to reach wide audiences are either told via stories, or mix personal experience with more technical arguments. (The environmental films *An Inconvenient Truth/Sequel* (2006/2017), *The Age of Stupid* (2009), and *David Attenborough: A Life on Our Planet* (2020) are quite typical in this respect.)

INFORMATION POWER, DISPOSITIONS AND CONSTRUCTIVE DIALOGUES

Critical thinking will teach us to be on our guard against the tendency to rely on our own experiences and immediate responses to situations. Not only are these prone to error, but they are subject to the debilitating effects of overconfidence. However, like most

dispositions there is a balance to be sought, and due regard for power and authority, in all the forms we have encountered them here, does not rule out the possibility of rejecting them in favour of what we 'know' or even 'feel' to be right.

At the start of *Twelve Angry Men* Juror 8 struggles to articulate why he feels that the guilty verdict is wrong, but he rightly allows this intuition to motivate further thinking about the case, even in the face of severe and (especially if we include the lawyers and expert witnesses) authoritative opposition. In other situations, we might experience or witness, or otherwise believe something that is so extraordinary that we shouldn't expect others who haven't experienced the same thing to believe us. The person thinking critically would know this limitation, but not necessarily reject their belief. Miracles and religious experiences serve as an example, and even Hume was not saying that the person themselves should not believe what they have seen.

Another type of situation where personal conviction can be justified is one in which there is something inherently personal about a particular belief. It could be an aesthetic conviction, a love for someone, or a form of life that most others do not share or understand, but which is not incompatible with critical thinking on the grounds that the person has good reasons for why this is an area which is not (or should not be) amenable to reasoned justification. 'The universalizable does not' says virtue ethicist Martha Nussbaum, 'determine every dimension of choice;... there are silences of the heart within which its demands cannot, and should not, be heard' (1990, pp.39–40).

Beware though, because this is an area that has 'HANDLE WITH CARE' stamped in large letters. The line between admirable integrity and dogmatic refusal to subject one's beliefs to scrutiny is thin, and the latter too often hides behind the justification of the former. As with other examples of this apparent rejection of critical questions that we will come across in this book, there are subtle forms of justification which help establish the credibility of lonely decisions like these. Ethotic authority is one, and another is simply the person's willingness to acknowledge how their situation can seem peculiar to others; that by normal standards (standards that they otherwise respect), what they are choosing would be regarded as wrong or foolish.

6.3 LEGITIMATE, REWARD, AND COERCIVE POWER

THE MILGRAM EXPERIMENTS

Stanley Milgram's experiments in the 1960s measuring and analysing obedience to authority remain influential and important. They are quite well known these days, not only because the results are highly surprising and sobering, but because the experiments themselves are dramatic and involve electric shocks. Here I want to pay attention to the processes of power and authority – discussed at length in Milgram's book *Obedience to Authority* ([1974] 2005) – that explain the results. They serve both as an excellent example of arguments from various forms of authority and power, including legitimate, reward, and coercive, and as an insight into the psychology of persuasion that is associated with appeals to authority.

Motivated by the high obedience levels among soldiers and Nazi officials in the WWII death camps, and by the trial of Adolf Eichmann in 1961,[12] Milgram wanted to examine obedience behaviour in the laboratory. Members of the public were asked to volunteer for a memory experiment at Yale University. If selected they would turn up at the lab, the procedure would be explained to them, and they would meet their partner, another (apparent) volunteer called Mr Wallace.

As one of these participants you would, seemingly randomly, be assigned the role of 'teacher', with Mr Wallace as the 'learner'. You would read out a list of pairs of words to Mr Wallace, and then test his learning by reading out the first word from each pair, followed by four options from which he would try to choose the correct one. The twist in this procedure is that every time Mr Wallace answers wrongly, you are required to deliver an electric shock (the supposed purpose of the experiment being to test the effects of pain in motivating memory). A screen separates you and poor Mr Wallace, but prior to the experiment starting you see him being hooked up to the shock machine and strapped into a chair. In front of you is a row of switches delivering shocks in 15V increments from 15V to 450V. You are instructed to increase the level of shock every time the subject gets a question wrong (15V, 30V, 45V, 60V, etc.).

Pretty quickly Mr Wallace – who is, by the way, a stooge and not actually receiving shocks – starts to make mistakes and the shock level

duly increases. As the shocks become more severe, at various stages he starts, for example, groaning (135V), demanding to be allowed to leave (150–165V) (the cry of 'Get me out of here!' becomes continuous amidst other responses), screaming in pain (270V), refusing to answer questions (300V), violently screaming (315V), and then (if you are still participating by this point) after around 330V Mr Wallace falls silent.

As this develops, if you are a typical teacher you would plead with the experimenter and question the wisdom of continuing. In response to this predicted reluctance the experimenter has a series of carefully scripted prods to encourage you to continue: 'Please continue'; 'The experiment requires that you continue'; 'It is absolutely essential that you continue', and finally 'You have no other choice – you must go on.'

The question is: at what point do you refuse to continue administering shocks? The surprising result of this basic experimental set up was that 100% of subjects went as far as 300V, and 65% went to 450V. Variations of the experiment carried out by Milgram and by other psychologists in a wide variety of countries and cultures across several decades show similar outcomes. The implication is that many of us, under these conditions, would be unwilling or unable to disobey commands to administer potentially lethal electric shocks to a stranger under circumstance in which the punishment for disobedience is no more than the experimenter's disapproval. Milgram concluded:

> if a system of death camps were set up in the United States of the sort we had seen in Nazi Germany, one would be able to find sufficient personnel for those camps in any medium-sized American town. (Cited in Blass, 2000, p.35)

Explaining Milgram's findings

So, what's behind this? Milgram offers a complex, multilayered explanation that includes an evolved disposition towards obedience (because of the survival advantage of individuals who are able to operate in hierarchies); social learning (hierarchical structures of rewards and punishments in families, schools, and the workplace); and a series of social norms that bind subjects to the experimental situation once they've entered it. These 'binding factors' include their voluntarily agreement to participate (**commitment and consistency**); receiving payment for participating (**reciprocation**); and the

forms of **expert** and **legitimate authority** represented by science and its methods: Yale University, the laboratory environment, and the experimenter's lab coat and calm, confident demeanour.

The power of these social norms and their antecedents may seem trivial compared to the pain inflicted, but these experiments show that they are in fact not trivial. They all contribute to a 'barrier' of anxiety (Milgram, 2005, p.154) that the majority of subjects were unable to surmount, leading Milgram to propose:

> the conflict between conscience and authority is not a wholly philosophical or moral issue. Many of the subjects felt, at the philosophical level of values, that they ought not to go on, but they were unable to translate this conviction into action. (Milgram, cited in Blass, 2000, p. 35)

The view of Milgram and other researchers is that it is the combination of legitimate and expert power that makes disobedience so difficult. Legitimate power can be fairly easily understood and identified in terms of positions held and principles stood for, but its reality is quite fuzzy. It often encompasses information or expert power (the person has their position because of what they know), and it invariably comes with forms of reward and coercive power.

Numerous factors ensure the experimenter's legitimacy: his management of the procedure; his control of the space (the lab); his relationship to the place (the university) in which the experiment takes place; the epistemic and moral authority of science (which is signified by all the above); plus his demeanour and dress. The wording of his 'prods' makes no direct reference to any punishments for not continuing, and in fact do not make a great deal of sense as arguments. If you still have your wits about you that is. 'You have no other choice – you must go on' is easily countered, as demonstrated by one subject:

> I do have a choice. [Incredulous and indignant:] Why don't I have a choice? I came here on my own free will. I thought I was on a research project. But if I have to hurt somebody to do that, or if I was in his place, too I wouldn't stay there. I can't continue. (Milgram, 2005, p.52)

The implication is that this is not what the subject signed up for; that the experimenter no longer has legitimate power over him. If the subject refuses to continue, all the experimenter can say is that the experiment must come to an end, highlighting the limits of his power. Nevertheless, prior to this the barrier of anxiety that so many

subjects were unable to overcome was the result of fear of the experimenter's disapproval, which itself – Milgram plausibly speculates – is in large part caused by a generalising of an internalised association, beginning in childhood, between doing what's right and the power of legitimate authorities to reward and punish (ibid, p. 138).

LEGITIMATE AUTHORITY: STRUCTURE AND CRITICAL QUESTIONS

The general structure of an argument from legitimate authority is this:

P1: X has legitimate authority in the domain of Y.
P2: X believes that action Z in relation to Y must be performed.
C: Therefore Z must be performed.

The main critical questions applying to arguments from legitimate authority are:

Q1: Is the power in question legitimate?
Q2: Is this person currently in a position to exercise this power? (This refers to circumstances in which someone tries to impose their otherwise legitimate authority in the wrong domain, such as Robert De Niro's ex-CIA operant and possessive father's inappropriate spying on his daughter's fiancé in the film *Meet the Parents*.)
Q3: Are there other considerations that might override the person's legitimacy (for example the legitimacy of a competing authority)?

The Milgram procedure is primarily vulnerable to Q3 – the experimenter's otherwise legitimate and relevant authority is challenged by the authority of established moral standards concerning compassion and people's rights.

COERCIVE POWER AND AD BACULUM ARGUMENTS

In argumentation coercive power is usually analysed in terms of what are called ***ad baculum* arguments**. *Ad baculum* means in Latin 'to the

stick', and refers to arguments that threaten someone with harm of some kind (inflicted by the arguer) if they do not do a certain thing. They are sometimes referred to as 'appeals to force', and take this basic form:

P1: If you do not bring about X then I will make consequence Y will occur.
P2: Consequence Y is not in your interests.
C: You should bring about X.

An immediate distinction to make is that between threats and warnings. In everyday linguistic usage these terms are fairly interchangeable, but one important difference is relevant to our discussion. The manner of our relationship to someone who potentially holds the power of punishment over us is quite different if that power is legitimate. A warning might more typically be seen as the expression of legitimate power (coming from the law courts, one's teacher, spouse, etc.), whereas a threat implies someone taking the law into their own hands. That said, criminal gangs like the Mafia will 'warn' people, but arguably these organisations use this language precisely to create or sustain an air of legitimacy. 'Threat' sounds thuggish, 'warning' sounds principled.

Legitimacy, then, determines one of the critical questions, and the others address more practical considerations. The complete list is:

Q1: Is the person making the threat a legitimate authority acting within the context of their power?
Q2: Where not legitimate, is the person making the threat able to use the force they have threatened?
Q3: Is the person being threatened *able* to comply?
Q4: Is the person being threatened *willing* to comply (is it worth it for them)?

Consider the difference between these *ad baculum* arguments:

ARGUMENT 1

P1: If you do not attempt to adhere to professionally accepted standards, then we will make you redundant.

P2: You want to avoid being made redundant.
C: You should try harder to adhere to professionally accepted standards.

ARGUMENT 2

P1: If you complain again about unpaid overtime, then I will see to it that you are fired.
P2: You want to avoid being fired.
C: You should stop complaining about unpaid overtime.

It is easy to imagine a situation in which *Argument 1* meets the criteria implied by all four critical questions: the targets referred to have been agreed upon and are generally recognised as achievable, the person being threatened has a strong desire to keep their job, and the person presenting the argument is a legitimate authority (rather than, say, the person's subordinate). It is also easy to imagine a situation in which any combination of them is not met, despite the broad context being one of a target-led environment. For example: it has not been agreed that performance in terms of targets is a grounds for dismissal, it is only these grounds that could be the basis on dismissal in this case, the targets are not reasonably achievable by anyone, and the person has other jobs they can happily go to.

It is harder to imagine a circumstance in which *Argument 2* satisfactorily answers Q1 (but it is certainly not impossible). This is a situation in which the legitimacy of the threat is in question, and quite possibly it is a case of bullying. Significantly though, we can still see how it could be a strong argument even in the absence of legitimacy. If the arguer is in fact able to have the person fired (perhaps through manufacturing legitimate grounds), the person is able to stop complaining (which is entirely possible), and they want the job badly enough (maybe it is with a prestigious organisation), then this could be enough to accept the conclusion. At this point though, this form of argument analysis seems to let us down. There clearly *is* something wrong here, and just what that is will be discussed shortly under 'Constructive dialogues'.

Beforehand, I will briefly say something about what can be meant by 'harm'. *Ad baculums* primarily refer to physical threats, but they can apply to psychological threats as well: 'If you don't accept my point of view, I will disrespect or dislike you.' Sometimes this implied threat is

unavoidable (in trying to convert a racist, for example), and is perhaps implied in quite a few discussion topics. Open-mindedness shouldn't stretch to what is clearly false, implausible, or morally unacceptable, and so argumentation has the power to begin or end relationships. Also, however, a consequence of argumentation is that we find out who we do and do not agree with, and sharing views, even where disagreements remain, can be a determinant of liking and respect (see Chapter 3).

AD BACULUM ARGUMENTS: PSYCHOLOGY AND RHETORIC

Ad baculum arguments are a sub-category of what are known as 'appeals to fear'. An appeal to fear is any argument that uses the possibility of a fearful consequence as a premise for accepting a certain conclusion. As well as appeals to force these encompass events that are not subject to official decree – disease, death, climate change – where it makes no sense to question legitimacy; 'If you continue to do this, this is liable to happen', rather than 'If you continue to do this, I will make this happen.'

In both cases it is fear of a certain consequence that leads us to accept the conclusion, and as we saw in Chapter 2, emotions tend to distort our thinking. Once the fearful possibility is raised, critical questions can be overlooked or our capacity to investigate them accurately impaired. An extreme case is terrorism, the potency of which relies on 'an irrational tendency … to magnify unexpected and "mysterious" evils out of their true proportion' (Narveson, 1993, p.154). Governments and other political groups have used fear (of terrorists, immigrants, etc.) and uncertainty to push people towards more conservative values or a greater acceptance of authoritarian leadership, and a dramatic version of this exploitative strategy has been labelled the 'shock doctrine'.[13] The critical questions to apply to the fear element of *ad baculum* arguments – i.e., the general questions applicable to all appeals to emotion – can be found in Chapter 2.

AD BACULUM ARGUMENTS, DISPOSITIONS, AND CONSTRUCTIVE DIALOGUES

Ad baculum arguments can be strong arguments in so far as the premises can be true, and if we accept these premises then we must also accept the conclusion. The main problem with them is the effect they have on a dialogue, which is typically to end it.

In the case of threats or warnings issued legitimately, there can be further deliberation about the nature of this legitimacy, but if it is simply someone forcing you to do or believe something or else suffer the consequences, then they are effectively ending the discussion. This is what happens when peace talks collapse, and typically this is what war is – an unwillingness or inability to live with a disagreement that has proved unsolvable through dialogue.

Implicit *ad baculums* can occur via the disapproval we often signal through non-verbal or paralinguistic cues such as facial expressions and tone of voice. Even if what is being communicated verbally is not aggressive, the asymmetric raised lip of contempt or inappropriate sigh can let other discussants know that they risk losing your respect if they do not agree with your position, and it runs the risk of an angry retaliation. (This is very common in dialogues, and there are endless examples of it in *Twelve Angry Men*.) This might be a calculated act of intimidation, but it might also be unconscious and unintended; you might feel this way, but do not want to licence this feeling, or communicate it, precisely because it will prematurely close down the dialogue. In cases like this the dispositions of **metacognition** and self-control (part of what Aikin and Clanton (2010) refer to as 'deliberative temperance') become valuable for maintaining a constructive dialogue.

A final point to consider is that there is one type of dialogue in which threats are accepted as legitimate – the negotiation.[14] The structure of a negotiation is for each side to make demands which, if not met, will result in various sanctions (such as strike action, lay-offs, no longer allowing your van to be used for transporting the band's gear). Opposing parties are effectively trading *ad baculum* arguments, but in a way that is legitimised by a mutual, if often unstated, understanding of the rules of the game: a recognition that the purpose is to reach a compromised agreement, and an expectation that reasons will be given to explain each side's demands.

MILGRAM AND DISPOSITIONS

In his discussion of individual responses to the experimental conditions Milgram distinguishes between a 'Professor of Old Testament' ([1974] 2005, pp.49–50) who disobeyed orders on the basis of a different authority, God; and a participant, referred to as Gretchen Brandt, who

he sees as having virtues which enable her refusal (ibid, pp.87–8). There is an independence exhibited in Brandt's behaviour that makes her a good example of a critical thinker, and Milgram is clearly impressed by what he sees as her 'total control of her own action' which 'seems to make disobedience a simple and rational deed' (ibid, p.88).

Also, in most cases of disobedience a significant amount of courage is required. Not only is it a matter of disobeying orders from an authority whose position is still upheld by the situation, but of transgressing broad social hierarchies. Among other things, to disobey is to disrespect and to discredit, and it is therefore to embarrass the other person (which will also embarrass us) (ibid, p.152). And not only do we need courage to stand up to and delegitimise an apparent authority but the anxiety that challenging and unfamiliar situations provoke can severely disable our ability to think critically. We are more likely to let ourselves be led by those – in this case the experimenter – who display confidence; and we are more likely to spontaneously generate rationalisations for our continued obedience: e.g., seeing the experimenter as fully responsible for the harm, or viewing the learner as deserving of their discomfort because they are stupid or stubborn (ibid, pp.47–8).

MILGRAM, LEGITIMACY, AND FRAMING

Framing was discussed in some detail in Chapter 1. Milgram uses it to explain how someone perceived as having legitimate power is in a position to define the meaning of a situation, and in that way attain greater control over people's subsequent beliefs and behaviour (ibid, pp.146–7). Drawing a comparison with propaganda, the trick with obedience is to put people in a position in which they willingly go along with commands because these commands are consistent with an already accepted definition of the meaning or purpose of a situation. Subsequent instruction is primed to be interpreted through the lens of scientific legitimacy and expertise. For the subject, what's going on *could* be seen as wrong, but the behaviour of the experimenter, who continues to represent this frame of reference, suggests otherwise. In most instances this contributes to obedience, and only in a minority of cases is the competing frame of independent ethical thinking able to purchase enough of a foothold to help leverage disobedience.

As we have noted on a few occasions, of enormous importance for effective critical thinking is the willingness and ability to think beyond a situation or problem as it is immediately understood, or as it is presented to us by others. As critical thinkers we must be prepared to ask ourselves: 'Is there another way of looking at this?' And usually there is.

REWARD POWER

Like punishments, rewards are a fundamental aspect of life, and come in many forms (from pay to praise). Anyone able to influence the behaviour of others through rewards has 'reward power'. Often rewards are traded as we negotiate with others (longer holidays for a pay cut, school children working hard for praise, and so on). And we can control our own behaviour through self-rewards such as giving ourselves 'treats' – a session on *Minecraft*, an episode (or two) of *Ozark*, a biscuit even – for accomplishing unpleasant or difficult tasks. The structure of this kind of argument and the critical questions are similar to those of *ad baculum* arguments:

P1: If you bring about X, then you will receive Y.
P2: Y is something that you want.
C: You should bring about X.

Critical questions:

Q1: Can the person genuinely provide the reward in question, and are they likely to?
Q2: Are you *able* to do what is required to receive the reward offered?
Q3: Are you (or should you be) *willing* to pay the necessary price?

The relevance of these questions for Milgram's subjects is clear enough. If Milgram is right to suggest that the approval we seek from the experimenter is conditioned by a lifetime of associating approval with obedience, then Q1 is perhaps the most crucial. System 1 will happily, but erroneously, generalise early family and school experiences to our relationship with the source of authority in this situation.

6.4 SUMMARY

This chapter has examined the strength of arguments based on expert, information, legitimate, reward, and coercive power. In each case they can form the basis of strong arguments, but, as the Milgram experiments demonstrate, the deep and complex motivations behind obedience and compliance is such that an enormous amount of caution – assisted by self-awareness, courage, and a willingness to take responsibility for our beliefs and actions – is needed when confronted by authority-based appeals. The next chapter continues the themes of social power and message source, exploring ethotic authority, further types of ad hominem argument, and arguments appealing to referent power.

EXERCISES

1. Since appeals to the forms of power and authority discussed in this chapter are so common, a worthwhile exercise is to find several examples of such appeals from news stories, opinion pieces, political commentaries, exchanges on social media, etc. Apply the appropriate critical questions to them, assess their potential persuasiveness, their impact on the dialogue, and what they might reveal about the dispositions of the people who use them.
2. The focus of this chapter has been the application of criteria for avoiding and guarding against weak appeals to authority. A separate phenomenon is the chronic distrust of experts in areas where there is scientific consensus, with climate science and vaccinations as outstanding recent examples. There is now a large body of literature that seeks to explain the psychological and political causes of this: Levy, 2019, and Baghramian and Croce, 2021 are excellent starting points, as is the website of PERITIA, the EU project on public trust in expertise: https://peritia-trust.eu. To initiate your own thinking on the issue a helpful exercise is to hypothesise reasons based on some of the ideas discussed in this chapter and elsewhere in this book (especially Chapters 1–3, 7, and 8.)

FURTHER READING

As with other chapters, use the in-text references as a guide to further reading on specific aspects of what has been discussed here. Also,

for a concise and illuminating discussion of *ad baculum* arguments see Woods (1995) 'Appeal to force'.

In the second exercise above, you will find recommendations for further reading on the question of why certain people or groups reject scientific consensus.

NOTES

1 A modern advocate of this, drawing on Aristotle's and Seneca's ideas on virtues and rhetoric, is Alan Brinton. (See, for example, Brinton, 1986)
2 For example, Johnson and Blair (2006, pp.168–72) have four, Douglas Walton (2006, p.88) has six, and Christopher Tindale (2007, pp. 134–43) seven.
3 *The Life Scientific*, BBC Radio 4, 28.7.15.
4 Group selection is the idea that evolution works, at least in part, at the level of the adaptive fitness of groups rather than genes. Thus, a group in which individuals are more cooperative and willing to self-sacrifice for the sake of the collective will fare better than one in which individuals are more selfish. The selfish gene theory, on the other hand, states that cooperative tendencies (reciprocal and kin altruism) are only selected to the extent that they benefit the individual and those who share their genes.
5 Pennisi, E. (2011) Researchers Challenge E.O. Wilson over Evolutionary Theory [Article]. Available at: www.science.org/content/article/researchers-challenge-e-o-wilson-over-evolutionary-theory
6 My analysis of these issues has been significantly influenced by Heather Battaly's article 'Attacking Character' (2010).
7 You know who you are!
8 This essay can be found in numerous places, including Stump, E. and Murray, M. (eds) *Philosophy of Religion: The Big Questions* (Blackwell, 1999).
9 See Mason, R. (2014) Fiona Woolf resigns as chair of government's child abuse inquiry [Online article]. Available at: www.theguardian.com/politics/2014/oct/31/fiona-woolf-resigns-chairman-child-abuse-inquiry. (For other reasons Lowell resigned (or was sacked) in 2016, and was replaced by Prof Alexis Jay.)
10 Adapted from Douglas Walton (2006, p.123) and Christopher Tindale (2007, p.89).
11 Available at: www.africa.upenn.edu/Articles_Gen/Letter_Birmingham.html
12 Described and analysed in Hannah Arendt's book *Eichmann in Jerusalem: A Report into the Banality of Evil* (Penguin, 1965).
13 Klein, N. *The Shock Doctrine* (Penguin, 2008).
14 For an insightful discussion of this, and *ad baculum* arguments in general, see Woods (1995).

7

ARGUMENTS, SOCIAL POWER, AND MESSAGE SOURCE (PART 2)

> God told me to invade Iraq. (President G.W. Bush, as reported in *The Independent*, 7 October 2005)
> What's wrong with ad hominem arguments? Only a fool would ask a question like that. (Sacha T. Burnstorm, pers. comm.)

The theme of this chapter and the previous one is characteristics of the arguer, or those they refer to in support of their arguments. These have been analysed via categories of social power, and the remaining types – arguments making a broad appeal to character (ethotic arguments) and referent power (the last from French and Raven's original list) – are our current focus. Complimenting this is a further exploration of **ad hominem arguments**, and the introduction of appeals to common belief or ***ad populum* arguments**.

7.1 ARGUMENTS APPEALING TO CHARACTER

The structure of ethotic arguments is set out by Walton, Reed, and Macagno (2008, p.336) in this way:

P1: If X is a person of good (bad) moral character, then what X says should be accepted as more plausible (rejected as less plausible).

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P2: X is a person of good (bad) moral character.
C: Therefore what X says should be accepted as more plausible (rejected as less plausible).

In the broadest sense then, ethotic arguments employ the moral character of the person upholding a position to help establish the plausibility of that position. As you can see from the scheme above, this can refer to good or bad aspects of that character, depending on whether the arguer's aim is to support or reject a particular conclusion. In this section I am going to use 'ethotic authority' to refer to arguments appealing in a positive way to moral character, and 'abusive ad hominem' for arguments that appeal to it in a negative way.

ETHOTIC AUTHORITY

Direct (or abusive) ad hominem arguments are discussed in most textbooks that deal with argument forms and fallacies, but ethotic authority is often overlooked. On the face of it this is surprising, but on closer inspection the main problem with offering an argument from moral character is that it will often collapse into one of the other categories of authority – typically expert or legitimate.

For example, if we are swayed by the empathetic nature of a friend who is campaigning for an increase in the percentage of GDP spent on overseas aid, any argument to this effect would likely identify a form of moral *expertise* as the basis of believing its plausibility. Or if we are impressed by the views of a modest colleague on the contribution of a co-worker to a project this would be down to the modest person's accurate (non-self-serving) insight into collaborative situations. Certain positions, such as judges, parliamentary speakers, or being a parent (of more than one child), demand impartiality, so the person who acts in accordance with this norm is assumed to be instantiating a moral legitimacy inherent to the role, rather than it necessarily being a reflection of their good character.

We are, however, sometimes influenced by a more holistic impression of someone we regard as a 'good person'. Juror 8 in *Twelve Angry Men*, Ellen Ripley in the *Alien* films, and Mikael Blomkvist in Stieg Larsson's novel *The Girl with the Dragon Tattoo* might be examples, as are many other fictional heroes and heroines. In real life Oprah Winfrey,

Sir David Attenborough, Nelson Mandela, and Taylor Swift serve to illustrate the point, and most of us will have examples from our own circles. In cases where these people are cited in support of a claim, or as making that claim themselves, their character increases the chances of us agreeing with them. But the circumstances in which this can form the basis of a strong argument and where the person's being good is not reducible to a form of moral expertise as previously discussed, will be quite select. We can conclude though that positive ethotic arguments are most clearly defined by situations in which, with no further expertise implied, an example of a good person – one that is likely to be agreed upon in this context by the people the argument is aimed at – is used as a heuristic for the right thing to do or believe.

Most typically it will be cases in which we have very little to go on, and where our acceptance of plausibility will be highly provisional. A good example is near the start of *Twelve Angry Men* when Juror 8 is attempting to persuade the others that they should spend time discussing the case even though they are all convinced of the defendant's guilt. Juror 9 is quite explicit when he argues that he's willing to accept the request because he is impressed by certain characteristics of Juror 8 – notably his willingness to stand up to the majority – which are not relevant to the case itself.

In his unusually detailed and engaging social psychology textbook (and one of the few academic sources to discuss *Twelve Angry Men*) Roger Brown (1986, p.234) endorses the practical necessity of this type of reasoning under circumstances of unavoidable ignorance. 'In a good expressive discussion', he says, '… information is transmitted that is not part of any relevant argument. Each participant in some degree expresses his … assertiveness, intelligence, education, fair-mindedness, compassion, prejudice, cowardice, and so on.'

The critical questions relating to ethotic arguments are these:

Q1. Is the person someone who can reasonably be regarded as having good character?
Q2. Is the good character of the person of the right kind to be relevant to the situation in question (counteracting the **halo effect** (see below))?
Q3. Is the weight placed on their character proportionate for the situation in question?

Q1 is dependent on the prior question of what constitutes good moral character. Invariably it will involve a collection of virtues that are, to a degree, culturally specific, but the preceding discussion indicates that in many cases it will encompass someone who exhibits some of the core critical thinking dispositions.

Q2 prompts us to reflect on possible situational limitations on good character; Juror 8 is the right beacon in a jury room, but not necessarily on a sports field.

Q3 serves as a reminder that placing significant emphasis on ethotic arguments is often most appropriate in situations of uncertainty. As is explained in the discussion of **direct ad hominem arguments** (below), appealing to this kind of authority (in the form of role models or charismatic leaders) can be motivated by a desire to not take responsibility for our actions in situations where we should be.

ETHOTIC AUTHORITY: PSYCHOLOGY AND RHETORIC

Someone possessing ethotic power will tend to function as a role model. A role model is someone we seek to imitate, and this notion is helpful for understanding a difference between adherence to rules (a type of legitimate authority) and ethotic power. The focus of the latter is the individual rather than the abstract rule; a good example being the (now faded) fashion among young Christians for wristbands with the slogan 'What would Jesus do?'.

Ethotic authority has persuasive potency because role models provide a vivid and memorable means for beginning our deliberations on how to respond to a range of situations. Referring to the Roman philosopher Seneca, Alan Brinton says,

> it is easier to recognise a virtuous person when we see one than it is to give or understand and evaluate (or be moved by) abstract accounts of the nature of virtue. (1986, p.253)

Like Jesus for Christians, the virtues these people embody are widely relevant and we are capable of imaginatively applying them by putting ourselves in the shoes of our ethotic heroine or hero: 'What would Juror 8 do?'; 'What would Oprah do?'; 'What would Blomkvist do?'; 'What would Taylor do?'; 'What would Grandma do?'

A common approach in marketing is to employ the ethotic qualities of celebrities to enhance the appeal of products. The idea is that the intelligence, sincerity, or good taste of people like Serena Williams or George Clooney rub off on the product. The consumer makes an implicit association between the celebrity's assumed qualities and the brand, and thus to the extent the celebrity acts as a role model for the consumer, the brand becomes more appealing. (This process of persuasion is the opposite of certain forms of **guilt by association**, discussed below.)

A risk with ethotic authority, underlining the importance of the second critical question, is what is known to social psychologists as the **halo effect**. The name – credited to early twentieth-century psychologist Edward Thorndike – refers to our tendency to generalise from a person's known positive qualities to other positive qualities. Without any supporting evidence, an intelligent person is more likely to be judged a morally good person than a less intelligent person, someone attractive is assumed to be above average in intelligence, and so on.

This seems to explain odd (and often disastrous) decisions to give outstanding footballers and/or pundits (like Alan Shearer and Gary Neville) managerial posts in top-ranking football teams with no prior experience of expertise in this area. It is also related to the accurate cliché that first impressions matter. System 1's appetite for coherence is such that the receipt of any information automatically frames subsequent information. Which of these two people do you prefer?

Annie is intelligent, industrious, impulsive, critical, stubborn, and envious

Shirley is envious, stubborn, critical, impulsive, industrious, and intelligent

Chances are it is Annie, even though the same traits are listed for both, and you are not told that they are listed in order of prominence. This is taken from a classic set of experiments by Solomon Asch in the 1940s;[1] he proposed that the halo effect causes the first entry to influence the interpretation of what follows so that ambiguous qualities such as being critical or impulsive attain a positive or negative spin depending on what comes before them. The net evaluation is thus reliably skewed by the initial piece of information we receive.

It is easy to see how the halo effect makes us vulnerable to making and accepting weak ethotic arguments. Its reverse – sometimes known as the **horn effect** – is also recognised, and is relevant to the psychology behind the persuasiveness of ad hominem arguments.

DIRECT AD HOMINEM ARGUMENTS

In the **direct ad hominem argument** it is aspects of the general character of the person that are attacked in order to cast doubt on their view. It is a 'direct' attack because, unlike the other types of ad hominem argument, it is aimed squarely at personal characteristics rather than what the person has done or said. However, it is also, confusingly, indirect because the causal relationship between the characteristic and what the person believes or states is more oblique.

The target of direct ad hominems can be failings in terms of critical thinking dispositions. In certain circumstances a person's views can rightfully be taken less seriously if they are dishonest, dogmatic, arrogant, inflexible, and so on. The implication is that possession of such flaws will compromise their knowledge or judgement, or their willingness or ability to communicate the truth.

In other situations a wider range of dispositions can be relevant to our decisions about what to do. For instance, the capacity for compassion is unlikely to figure in how we assess someone's views on astronomy, but it probably will figure in our decision on who to vote for as the leader of our country. Quite often though, direct ad hominem attacks are abusive and have a whiff of desperation about them. They are knee-jerk moves we resort to when under pressure and when emotions are strong. (The critical questions applying to the main forms of ad hominem argument, including direct ones, can be found in Section 6.2 in the previous chapter.)

ETHOTIC ARGUMENTS, DISPOSITIONS, AND CONSTRUCTIVE DIALOGUES

One form of direct ad hominem attack concerns the questioning of someone's motivations for appealing to authority in their arguments. This is worth paying some attention to because it focusses on

the important critical thinking dispositions of a willingness to think independently, and to take responsibility for one's commitments. As mentioned, appeals to authority can indicate due modesty and recognition of the quite enormous limitations on what we can know first-hand, but they can also indicate a lack of persistence in securing first-hand understanding, or they can be used to shield us from the consequences of our actions. In dialogical terms, the individual opts out and directs the questioner elsewhere.

In this chapter's epigram we find the claim that George W. Bush placed responsibility for the invasion of Iraq in God's hands; the Yorkshire Ripper did the same with respect to his murders; more recently boxer Tyson Fury referred us to the Bible when asked to defend his offensive remarks on homosexuality; and of course the 'following orders' defence was used by Eichmann and other war criminals. In his experiments on obedience to authority Milgram found that there as a 'reduction in strain' in subjects when it was acknowledged that the experimenter would take responsibility for the consequences of the procedure (2005, pp.161–2).

A more comprehensive and quite vivid example of abrogation of responsibility is that of the cult member and other situations in which a particular expert or leader has, for some, an aura of untouchability. This is studied under 'charismatic leadership'. Charisma is a form of ethotic power that is notoriously hard to define but is associated with 'special gifts' and 'hypnotic' or 'magical' qualities to someone's personality that inspire love and make people want to follow them (see Weber, 1978, pp.242–3; Burns, 1978, Ch.9). In a documentary about Margaret Thatcher one of her Private Secretaries (Caroline Slocock) talks about how inside No.10 'felt more real than the outside world', 'everything was in colour, while everything outside was in black and white'.[2]

In all these cases there is a comforting sense of security and certainty that comes with handing over responsibility to someone else. In some situations (such as small child to parent) there is nothing wrong with this, but in many others it can be a dangerous illusion. With people in positions of power considered as charismatic they can be all too willing to accept this responsibility, and history attests that the two motivations combined can have tragic consequences.

Determining when an appeal to authority is wrongly motivated is significantly context dependent, but the questions we need to ask are clear enough. Firstly:

> Is this a situation in which the person should take direct responsibility for their belief (or action), or is it one in which it is reasonable for them to refer us to a particular authority?

If the answer is that responsibility should be taken, then the space is created for a further question along the lines of:

> What does the person stand to gain from shifting responsibility for a decision to an authority?

If there is a plausible case for a questionable motive for the appeal to authority, then we have the basis for a motivation-based direct ad hominem argument.

Direct ad hominem arguments and prejudice

However, direct ad hominem arguments also come with an increasingly familiar warning. Because they are aimed at the person rather than what they are claiming they can carry all manner of prejudiced assumptions concerning people's credibility.[3] Racial and other stereotypes are fallacious direct ad hominem arguments. When hearing or making direct ad hominem arguments we should pause to consider the critical question:

> What is motivating this attack?

And this could of course be the start of a further direct ad hominem argument, generated by us (and potentially aimed at ourselves). For mitigating prejudice, dispositions associated with listening and respect are fundamental. Also important is a certain form of **metacognition** that is attuned to forms of bias that research in social cognition has revealed to be both far more prevalent than we would imagine, and often under our conscious radar (see Fiske (2005) for a review).

TU QUOQUE ARGUMENTS

Spouse: I really wish you'd be friendlier towards my family.
Other spouse: Oh, and I suppose you're a model of tolerance towards mine are you?

Sometimes referred to as 'whataboutery', this kind of interchange is remarkably common. Instead of responding directly to a criticism, we hit back with a version of the same criticism (***tu quoque*** translates from Latin as 'you too'). It is a peculiar piece of argumentation because, on the one hand, it is typically highly reactive and defensive (and thus damaging to the progress of the dialogue), but on the other there is often something in it. That something is along the lines of 'Don't judge me by standards you don't yourself uphold', or 'You're being a hypocrite.' You are saying that the person is not in a position to judge, and therefore providing a reason for why you should not have to respond to their accusation.

The strength of this type of argument is heavily dependent on a range of contextual factors concerning the relationship between the people involved, the type of behaviour under discussion, and the motivation of the person who uses it. For example, the parent who smokes twenty-a-day and who warns their teenage child against smoking arguably *is* in a position to judge. They wish they had not started as a teenager and now they can't stop, and that is one of the reasons they are passing on the benefits of their experience to their child. If the teenager's response is along the lines of 'Who are you to talk?' the parent can punctuate a highly convincing answer with a hacking cough.

More considered *tu quoque* attacks are personal in quite a serious way because inconsistency, or hypocrisy, is seen as a significant character flaw. A strong *tu quoque* argument will not only damage the other arguer's position, it can have a broader impact on subsequent arguments they present by making them seem less trustworthy.

Evaluations of *tu quoque* arguments will place a lot of emphasis on the second critical question for ad hominen arguments:

Q2. Is this attack relevant to the claim that the argument makes?

Al Gore received criticism for flying the world to promote his eco film *An Inconvenient Truth* (2006), but this is not relevant to the conclusion that he is hypocritical or otherwise lacks credibility. Al Gore's choosing not to fly might have sent some kind of message (as Greta Thunberg's carbon neutral sailing across the Atlantic to attend climate events in 2019 did), but not if his film is not making an impact on publics and policymakers in the first place. Very likely it was his

presence in these places, plus the commitment to the cause that his touring demonstrated, that made people pay attention.[4]

On the other hand, the Church of England criticising payday loan companies, whilst at the same time investing in one of them (Wonga) looks like a stronger *tu quoque* argument.[5] The same goes for the list of politicians and advisers who broke Covid lockdown restrictions in the UK in 2020 and 2021 and were consequently (though notoriously not in all cases) forced to resign.

In the spousal dialogue at the top of this section things are more complicated. It is possible that the husband's response is entirely defensive and that his counteraccusation is simply a means of deflecting the discussion away from the fact that he does need to be friendlier towards his in-laws. It is also possible that, even if true of the husband, the wife's accusation is indeed mirrored by her own behaviour. Under these circumstances cool heads are needed (the very cool heads that ad hominem arguments tend not to encourage). Other things being equal, both parties should, ideally, reflect on their own behaviour and reach a joint conclusion that (1) both need to improve in this way and, importantly, (2) that one cannot reasonably expect the other to do this unless they do it themselves.

Underpinning this is the need for reciprocation in so many social encounters (see Chapter 1). Since we cannot expect perfection in our moral and social behaviour, our standards tend to be relative to the norms that surround us. In other words, if our peers demand things of us, we expect them to demand the same of themselves.

It is, however, this same rule of reciprocation that can cause a group (or couple-based) conspiracy of silence. In order not to provoke the rows and fallings-out that criticisms tend to generate, and in order to avoid the critical spotlight being turned in our direction, we can find ourselves not criticising others when we should be. In terms of personal development and group deliberations, *tu quoque* responses could have a detrimental long-term impact because people become unwilling to offer constructive feedback that would otherwise serve us, or the group, well. It is easy to imagine the role that this kind of response could play in **groupthink**; if a critical suggestion is met with the messenger being shot, fewer messengers will be turning up, a greater number of poor arguments will go unchallenged, and the 'illusion of unanimity' will be strengthened.

GUILT BY ASSOCIATION

Before moving on I will briefly mention a further variation of ad hominem arguments known as **guilt by association**. In these cases disreputable features of a person or organisation an arguer has some connection with is transferred onto them. These arguments can be strong if the association in question has an actual and relevant bearing on the credibility of a person's position, such as a male politician's membership of a club known to be misogynist. They can unfortunately also be persuasive where there is no relevance (or even truth), and are for this reason commonly deployed and dangerous.

I once saw a placard in a demonstration against 'Obamacare' which read,

> FIDEL CASTRO SAYS HE LIKES OBAMACARE. THE RIGHT DIRECTION FOR AMERICA?

The argument is flimsy and vague, but the negative association would have been powerful for many Americans.

7.2 APPEALS TO REFERENT POWER AND *AD POPULUM* ARGUMENTS

The influence on our beliefs or actions originating from the commitments and behaviour of people who we see as being 'like us' is called **referent power**. Peer pressure is an example, but so is any attempt to persuade us that involves reference to a group of people we identify with. It relies on what is termed our social identity, the aspects of who we take ourselves to be (including what gives us esteem) that derive from the groups that we belong to (Tajfel and Turner, 1986).

In argumentation, referent power falls under the broader heading of ***ad populum* arguments**, which are defined as arguments that appeal to the fact that a position is generally held to be true as a reason for accepting that it is true. In its simplest form it has this structure:

P1: Everyone (or a large majority of people) believes X.
P2: Whenever something is generally accepted as true there's a strong likelihood that it is true.
C: Therefore X is true (or X is plausible)

A variation that appeals specifically to referent power is:

P1: Everyone (or a large majority of people) belonging to my referent group Y believes X about subject Z.
P2: Whenever something is generally accepted by my referent group Y about subject Z as true, there is a strong likelihood that it is true.
C: Therefore X is true (or X is plausible).

On the face of it, *ad populum* arguments are the antithesis of critical thinking; basing one's beliefs on second-hand evidence from a group of non-experts. However, they are not always poor arguments, as an analysis of the relevant critical questions will demonstrate. These critical questions are:

Q1: Is X, in fact, generally believed to be the case?
Q2: If so, is X a domain of knowledge where popular belief is relevant to its truth?
Q3: If so, is the population whose beliefs are referred to the one with the appropriate knowledge of X?
Q4: If so, is this group of people reliable? (For example, are there signs that the views of the group in question have been corrupted by processes like groupthink, or that they have reasons not to be truthful?)
Q5: If so, is the conclusion reached on the basis of general belief appropriate (e.g., suitably cautious)?

Q1 guards against a mistaken belief about what is common knowledge. It is the kind of error that can result from someone's confident (and potentially intimidating) claim that 'everybody knows that!' being accepted too readily. Asking a selection of one's friends and peers, checking with opinion polls, or simply pausing for reflection are ways to attain answers to this question.

Sometimes Q2 can generate a clear 'yes'; typically concerning aspects of life that most people who have been around for a while are in a **position to know**. One example is local knowledge: that Old Gregor at number 34 is a bit weird but essentially harmless; that the dog at the building supplies outlet's bark is worse than its bite; that

Morton's fish and chips are the best in town. Other examples serve as an extension of this idea; the practiced, and hopefully reflected-upon, experience that justifies jury-based decision-making, consulting with employees when deciding organisational codes of conduct, and the democratic election of governments.

More often a carefully worded *ad populum* will give rise to a conclusion that is plausible, or at least indicates that a position is worthy of a closer look. Some will be variations of **position to know** arguments where we are told that something is true because everyone who has had certain experiences (relating to their job or other life experience) gets it. This can be the basis of an important argument when those who are not in that position tend not to agree.

Or we might just answer 'no' to Q2, and religious belief is an outstanding example. It could be true, but millions believing that it is should not count as a reason for a neutral person to believe that it is. Also, in science there are numerous cases where what the public believes and what experts believe are clearly at odds. Climate change denial among the American Christian right is a specific and serious example, and the exposing of commonly held beliefs as myths is common in popular science forums.[6]

Overall, we need to be aware that potentially momentous changes can occur in scientific or moral knowledge which contradict but fail to dislodge traditional beliefs. This inertia could be a simple matter of ignorance and the time it takes for knowledge to seep into a culture, but some beliefs remain common because they are comforting or otherwise useful.

Q3 is covered by previous analyses of **position to know** arguments. Q4 is directed at dogmatic, lazy, fearful, antagonistic, or competitive group mindsets that create the dangerous biases and unreliable communication that is so depressingly common on social media. The self-fulfilling deliberations that impede critical thinking in *Twelve Angry Men* serve as an example. We also need to be careful not to conflate witness testimony type cases with straightforward examples of *ad populum* position to know arguments, since immersion in situations can come with its own biases. We can have some sympathy for 'You weren't there, man!' or 'You can't handle the truth!' defences of dubious military practices, but they are not going to be the last word on the matter.

Twelve Angry Men is also helpful for illustrating the important difference between *ad populum* arguments that refer to actions and those that refer to beliefs. As discussed in Chapter 1, as a bargaining tool to persuade the other jury members to talk about the case, Juror 8 proposes that if he cannot change their opinion after an hour of discussion then he would change his vote to guilty. He is not suggesting that he will have changed his mind about the case, but is offering, rather, a practical solution. This is of course quite common; it is basic to democracies and, in general, to situations in which going along with the majority – despite not agreeing with them – can be the best or right thing to do. These kinds of deliberation come with their own critical questions (e.g., even in a democracy a case can be made for it not always being right to go along with majority decisions), but the main point here is that basing one's action on the popular view is very different from basing one's belief on it.

'Social dilemmas' are situations in which a certain rational perspective can dictate that what we believe to be the right thing to do is not what we should do, because we have reasons to believe that not enough others will also be doing it. Either we do not want to be the 'sucker' who makes the sacrifice when others aren't, or, as with reducing carbon emissions, if not enough people/countries commit then the efforts of a few will not make any difference. There is not the space to pursue this topic any further here, but there is a vast literature to seek out if you are interested (see Further reading at the end of the chapter).

Some recent cases of social media based 'mob pressure' or 'witch hunts' raise some intriguing questions concerning the power of *ad populums*. The forced resignation of Nobel laureate Sir Tim Hunt from his academic post at UCL in 2015 after making sexist comments (in the form of a joke) at a conference is one example. UCL's decision was regarded as controversial, and some, including high-profile astrophysicist and TV presenter Brian Cox blame a 'trial by social media' for forcing their hand. Commenting on the story, an editorial in *The Guardian* concludes that:

> Twitter is loud, shouty and mainly male. It is rubbish at nuance, detail or ambivalence but it is perfect for rushing noisily to judgment, sometimes ... in a downright threatening way. The experience of UCL is another warning that a Twitterstorm is a digital riot, and that is how it should be treated.[7]

Widely held ethical views are rightly taken more seriously than scientific ones because they are value judgements that emerge from a culture; experts are describing our sensibilities as much as they are shaping them. However, if we assume that social media is able to amplify what *appear to be* popular moral views in a way that can have this kind of impact, then the helpfulness of the critical questions for guiding our analysis is plain. The answer to each of them is not obvious and requires not only an investigation of the details of the case, but philosophical questioning about the appropriate role of popular opinion in the making of moral and political judgements.

REFERENT POWER: PSYCHOLOGY AND RHETORIC

As the discussion of **social proof** in Chapter 1 shows, appeals to popular beliefs and behaviours are known to be extremely persuasive; its effects are immediate and powerful across a wide range of situations. Schultz, Noland, and Caildini (2007) measured the effects of social proof – and in particular referent power – on energy consumption by providing a sample of residents in San Marcos, California with information comparing their household consumption with the average consumption in their neighbourhood. This had an effect on electricity usage referred to as a 'rush to the middle': those with higher than average bills consumed less, and those with lower consumed more.

This is further evidence for the power of social proof, but the aim of the study was to test a way to persuade people to use less energy, not bring everyone closer to the average. The method was to add to this purely descriptive norm an 'injunctive' norm (indicating approval or disapproval), originally in the form of a smiley face for lower than average consumption, and a sad face for above average. Combining descriptive and injunctive norms in this way led to a significant decrease in average consumption. The effectiveness of the injunctive norm can seemingly be attributed to the broad legitimacy of environmental values (or at least of not being wasteful), but the adoption of this practice by a progressive company in California called Opower serves as an example of referent power. The injunctive norm method works, but not always for customers with a non-progressive political leaning (Republican voters), some

of whom *increased* their consumption. Unlike liberal customers, they will not identify with the overtly progressive approach of Opower or the kind of people who might aim to reduce consumption, and perceived social pressure towards doing so can create acts of defiance.[8]

The general understanding among social psychologists is that the tendency to rely on referent power increases when we find ourselves unsure how to behave (see Chapter 1). A variation of the Milgram experiments involved three teachers (two stooges plus the subject). At different stages the stooges rebel, resulting in the obedience rates for the remaining (real) subject dropping dramatically (Milgram, [1974] 2005, pp.117–22). In the San Marcos consumption study, since there is ambiguity around what constitutes an acceptable level of energy to consume, it makes sense that we turn to those who are 'like us' for a benchmark.

REFERENT POWER, DISPOSITIONS, AND CONSTRUCTIVE DIALOGUES

The way we handle arguments from popular opinion or that carry referent power is, in part, a function of our courage and of our willingness to take responsibility for our commitments. Zachary Seech rightly emphasises the pressure that can come from *ad populum* arguments, not so much towards changing our minds, but silencing us through fear:

> When someone says, 'Everyone knows that!' an implication seems to be that any person who doesn't possess this common information must be especially dense or poorly informed. In the company of peers or ... superiors, many people will relinquish [i.e., not defend rather than necessarily stop believing] even the most secure positions ... Other familiar phrases are ... 'No one seriously doubts that' or 'No one in his right mind could doubt that' or 'No educated person would doubt that'. The latter two are especially intimidating. (1993, p.134)

Referent power implies the threat of some level of rejection by the group, and in this respect is also a species of *ad baculum* argument. One of Christopher Tindale's *ad populum* critical questions (that seems to combine Q1 and Q2 above) is: 'Is the … belief or practice so widely known to be correct that the burden of proof would lie with anyone who questioned it?' (2007, p.107). This underlines the dialogical implications of going against the grain. Like Juror 8, you are faced with a group of people (or a representative of that group) with nothing to prove, and who are more than likely annoyed that

you *do* have something to prove. Like Socrates, you are regarded as an irritant. Returning briefly to social dilemmas, part of the rationality for not acting on your beliefs, or possibly finding subconscious methods for changing them (see **cognitive dissonance**), can be to remain onside with your peer group or wider cultural location.[9]

On the other side of this, however, our critical thinking dispositions are also important for handling *ad populum* arguments that are personal in nature. There are ways in which other people can know us better than we know ourselves, and if we are to gain insight then it is important to be receptive to the, often painful, feedback they can provide. While it can sometimes be right to be sceptical of isolated comments about our character or behaviour, to remain dismissive of the possibility that we are indeed arrogant, self-centred, fickle, smelly (or whatever the criticism might be) in the face of unanimous agreement among disparate friends, relatives, and colleagues, tends to indicate a failing of dispositions such as courage, humility, or open-mindedness.

7.3 SUMMARY

We saw in the previous chapter that appeals to authority are unavoidable, and handled with care they can be strong arguments. Even more care is needed with ad hominem arguments – they can be lazy decision-making shortcuts, and seductive for this and other reasons. However, a person's circumstances, behaviours, or general character can sometimes be relevant to how we go about assessing their arguments. So long as the conclusions we draw are proportionate – rarely is a personal attack enough by itself for an outright rejection – then they are by no means always fallacious. The same, from a positive perspective, applies to arguments appealing to ethotic authority. The social proof and referent power that *ad populum* arguments court helps explain their appeal, but they too are not always weak, especially in circumstances where we are deciding what to do rather than what to believe.

EXERCISES

1. Assess the following *tu quoque* argument (from Roger Scruton, *On Hunting* (London: Yellow Jersey, 1999), pp.139–40) by applying the ad hominem critical questions to it (see Ch.6, section 6.2).

> It puzzles me that [those who oppose fox hunting] should have singled out an activity in which animals and humans, working in happy companionship, are fully and magnificently alive, and in which no suffering occurs that is not part of nature's due. Do the protestors trouble themselves, I wonder, over the factory farms, where pigs and chickens are grown like vegetables for the sake of their meat? One glance into these fermenting seas of misery would cure people of the illusion that they live on morally respectable terms with the rest of nature. ... Many who shout and scream at the hunt happily eat the tortured limbs of battery chickens. ... [Factory farmed pigs] are served in the restaurant of the House of Commons. And not one of those members who parade their tender conscience over fox-hunting has protested over the crime.

2. Since ad hominem arguments of all varieties are so common, an enlightening exercise is to find several examples of your own from political debates, opinion pieces, interviews (from print or digital news, broadcasts, podcasts, social media, etc.). Apply the critical questions to them, assess their potential persuasiveness, their impact on the dialogue, and what they might reveal about the dispositions of the people who use them.
3. Consider further circumstances in which common beliefs are an appropriate criterion for establishing one's own beliefs, or as grounds for a certain course of action; and examples where they are used in this way but should not be.

FURTHER READING

Make use of the in-text references as a guide to further reading on specific aspects of this chapter, and a further recommendation is Douglas Walton's book *Ad Hominem Arguments* (2009).

To find out more about social dilemmas a classic early text is Robert Alexrod's *The Evolution of Cooperation* (Penguin, 1984); there is an enlightening and accessible chapter on it in Peter Singer's *How Are We to Live?* (Oxford University Press, 1993); and for a good book applying this dilemma to climate change see Stephen Gardiner's *The Perfect Moral Storm* (Oxford University Press, 2011).

NOTES

1 Asch, S. (1946) Forming impressions of personality. *The Journal of Abnormal and Social Psychology*, *41*(3), 258–90.
2 For two excellent examples of charismatic leadership (as well as a range of rhetorical techniques) see the character Andreas Wolf in Jonathan Franzen's novel *Purity* (Fourth Estate, 2015), p.262, and Forest Whitaker's portrayal of Idi Amin in the film *The Last King of Scotland* (Kevin MacDonald, 2007) – most notably the section where Amin is persuading the young Scottish doctor to be his personal physician (between approx. 24 and 36 minutes).
3 A very good book devoted to this subject is Miranda Fricker's *Epistemic Injustice* (Oxford University Press, 2007).
4 See Hoffman, A. (2011) Talking past each other? Cultural framing of skeptical and convinced logics in the climate change debate. *Organization & Environment*, 24(1), 3–33.
5 www.reuters.com/article/wonga-church-stakesale-idUSL4N0PL5O420140710
6 For example, Discovery Channel's *Mythbusters*, the *Fortean Times* column 'Mythconceptions'.
7 The Guardian view on the Tim Hunt affair: an explosive combination of science, sexism and social media (2015) [Editorial]. Available at: www.theguardian.com/commentisfree/2015/jun/30/the-guardian-view-on-the-tim-hunt-affair-an-explosive-combination-of-science-sexism-and-social-media
8 See Payne, O. *Inspiring Sustainable Behaviour* (Earthscan, 2012), pp.97–99.
9 Kahan, D. et al. (2011) The tragedy of the risk-perception commons: Culture conflict, rationality conflict, and climate change. *Temple University legal studies research paper*, 2011–26.

8

CAUSAL ARGUMENTS, GENERALISATIONS, ARGUMENTS FROM CONSEQUENCES, AND SLIPPERY SLOPE ARGUMENTS

> Since we are all such absolutists by instinct, what in our quality as students of philosophy ought we to do about this fact? Shall we espouse and endorse it? Or shall we treat it as a weakness of our nature from which we must free ourselves if we can? I sincerely believe that the latter course is the only one we can follow as reflective [people]. (William James, 'The Will to Believe')
>
> Generalisations ... never right, always fun. (Henry Rollins, *Talk is Cheap Vol.3*)
>
> If people start using slippery slope arguments, where will it end? (Sacha T. Burnstorm, pers. comm.)

When decisions are made they are often justified in terms of the consequences they are intended to bring about: making these changes to the criminal justice system will decrease reoffending; making these cuts to renewable energy subsidies will help reduce the budget deficit; introducing video assistant referee technology (VAR) in football will make key decisions more accurate and not overly impede the flow of

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the game; eating less processed meat will make us healthier; and so on. But of course we, and those we are trying to convince, need to have reasons for believing these consequences will occur. Sometimes these reasons take the form of arguing for the causal relationship between various phenomena, and this involves two kinds of reasoning:

1. Establishing the likely causes of events that have happened in the past.
2. Generalising from those events to future events, or to aspects of the world that have not been directly observed or studied.

So, in deliberations about policies or everyday courses of action **consequences**, **causes**, and **generalisations** are intimately linked. In this chapter we will investigate each of these, beginning with causal arguments and ending with a common, but sometimes problematic, type of reasoning from consequences called the **slippery slope argument**. Establishing cause and effect is basic to scientific and historical research and thus knowledge of the methods these disciplines employ, and analyses of the strengths and weakness of these methods, is fundamental to students' and practitioners' ability to thinking critically in these areas. Critical thinking as a subject will explore the basic forms of this kind of reasoning, and sometimes discuss its association with the philosophy of science (see the end of this chapter for further reading along these lines). A philosophical or critical thinking perspective seeks to do more than provide a general introduction to scientific and academic methods though. By teaching us (or reminding us) about some fundamental features and assumptions in this area, it aims to refresh our thinking and make us more open-minded in our approach to knowledge. In accordance with the themes of this book there is particular emphasis on the sorts of errors we tend make when reasoning about causes, generalisations, and consequences, and their relationship to rhetoric, psychology, and dialogues. From these insights we can hopefully gain a better reflective understanding of ourselves as deliberators and the dispositions that can assist or impede these aspects of critical thinking.

8.1 CAUSAL ARGUMENTS AND CAUSAL FALLACIES

When I bought my first MP3 player and read the instructions for turning it on, it said 'hold down the button for 2–3 seconds and it

will switch on'. I did this, but nothing happened for about 6 or 7 seconds. Because I've not always had the best experiences with technology I assumed that (typically) my MP3 player was a bit slow. It otherwise worked fine though, so this wasn't much of a problem, and I would learn to love it anyway. I just developed the habit of holding the button down for this length of time. Several months later I was distracted by something whilst going through this ritual and let go after a couple of seconds. When I looked back at the screen a few seconds later I was surprised to see that it was on. The penny dropped. I had been assuming that turning it on meant that something needed to appear on the screen, but clearly that is not the case; holding down the button for 2–3 seconds is indeed enough to activate it, but nothing actually appears on the screen until after 6 or 7 seconds.

Apart from a need to reassess my relationship with technology, what this illustrates is how the quick assumptions we make about cause and effect can be both erroneous and habit-forming. Establishing the cause of something can be very difficult indeed, and of course attempts to do this are basic to the theory of the natural and social sciences and to the work of historians. Each discipline will have distinctive criteria for establishing the strength of causal claims, and they will share some general principles as well.

In the natural sciences a causally closed system is assumed in which all phenomena adhere to the physical principles governing the behaviour of matter. In the social sciences, explanations range from the physical to the cultural and are entwined with philosophical debates about the nature of the mind's relationship with the brain and the meaning and existence of free will. How, for example, can a thought – conceived of as a non-physical thing – cause changes to the physical world? If the mind is essentially a physical thing, and thus part of a chain of cause and effect, is free will possible? How are reasons for acting in certain ways different in kind from the mechanical causes of natural phenomena?

These are metaphysical questions, but more closely associated with critical thinking are epistemological puzzles. As David Hume ([1748] 2008) pointed out, we do not directly observe the cause of an event; the process by which X brings about Y. We observe that my golf club making contact with the ball is perfectly correlated with the ball moving (if not always the distance and direction I want it to go), but

the physical laws that we assume determine this are inferred rather than evident to the senses. Kant ([1781] 1929) argued that the very possibility of having experiences requires certain necessary conditions, including causality, but that the actual basis of our experience of causation is itself unknowable.

It is this limitation on our knowledge, combined with both the complexity of the world and what Kahneman (2012, pp.74–8) suggests is an innate tendency to 'see' causes where they do not exist, that makes causal reasoning particularly vulnerable to error. The causes of phenomena like climate change, educational attainment, and criminal behaviour; or of events like the Reformation, the American Civil War, and the fall of apartheid in South Africa are multiple, complex, and hard to establish with certainty. As we have seen, we have a tendency to jump to conclusions about straightforward cases of cause and effect, and with complex phenomena an added problem is to oversimplify our explanations.

The specialisation of academics can present us with a variation of this problem, and increasingly collaboration between disciplines to improve accuracy in establishing causes is encouraged. For example, the current obesity epidemic in parts of the developed world falls into the domains of (among others) health and nutrition, sociology, politics, psychology, and economics. Similarly, practitioners from a range of professions (social work, medicine, mental health, education) will work together to implement solutions for child abuse prevention, community and clinical care for people with mental health problems, or managing end of life care.

Everyday reasoning presents similar challenges. What caused Aunt Eliza to divorce Uncle Vance? Were they 'simply' growing apart? Was it the influence of her sister-in-law? Was she never truly able to forgive him for what happened in Düsseldorf? Was it all of these things combined, or some of them, or something else entirely? This is clearly not a matter for a research project or a team of practitioners, but concerned friends and family will often be mulling over causal explanations and presenting arguments to one another in an analogous fashion.

It is outside the scope of this book to delve further into the subtleties of the causal explanations that different situations present or that different disciplines trade in. It is though important to survey some general principles of causal reasoning. The aim here is to seek

to clarify these through the description and analyses of causal reasoning errors. After this I will explore the dispositions and psychological vulnerabilities that help explain what makes these errors so prevalent.

An initial distinction to make is between cases in which we have:

1. Multiple instances of one event being correlated with another – such as tea being more flavoursome and it being made with near-boiling water rather than slightly cooler water; or a patient's belief in the effectiveness of a drug and an increase in the speed of their recovery. In such cases natural and social scientific methods can usually be employed to observe or recreate conditions in which the cause and effect underlying the correlation can be adequately demonstrated.
2. Unusual or highly distinctive cases where causation needs to be argued for more indirectly (such as world wars, or the extinction of dinosaurs). In instances like these we can normally still find historical precedents or comparisons with subsequent events – for example, the causes of the 2008 financial crisis shared some features with the 1929 crash, and the causes and consequences of the Salmon Rushdie attack in 2022 are not entirely dissimilar to other assassination attempts – and thus we find that inductive arguments from analogy (see Chapter 9) are often employed to help establish the causes.

With this distinction in mind we can formulate the general structure of causal arguments:

P1: (Either through direct observation or analogy we have confidence that) X is correlated with Y.
P2: The ways in which a causal relationship can be confused with a mere correlation have been acknowledged and discounted to an extent that is reasonable through appropriate methods.
C: Therefore it is probable that X causes/caused Y.

CAUSAL FALLACIES

When attempting to establish the cause of a happening, we can be presented with two broad kinds of relationship between it and its

possible causes. On the one hand it can be clearly preceded by an event that could plausibly cause it to happen, and the more times we observe this temporal sequence the greater the chance of the prior event having something to do with its causation. On the other hand, we may be looking at two or more happenings that occurred around the same time, but with no clear temporal ordering.

In both cases causality will not be known without further investigation, but where there is a clear temporal relationship the specific fallacy known as *post hoc ergo propter hoc* (or *post hoc* for short) is a risk. This Latin term mean 'after this, therefore that because of this', and captures the assumption that because one event has followed another, then the second event has been caused by the first.

Without a clear sequence of events the direction of causality – if indeed there is a causal connection at all – can also be questioned. I find myself in a grumpy mood and blame the kids' bad behaviour, but can I be sure that it was their bad behaviour that caused my grumpy mood rather than my grumpy mood that caused their bad behaviour? To further complicate things, once initiated the causal link can work in both directions in a mutually reinforcing fashion. But what if the two things are entirely unrelated and I am being too quick or too lazy in my hypothesising? If I reflect, then perhaps it was Aunt Eliza's email about the divorce that put me in a bad mood, and come to think of it, the kids were already behaving poorly when I picked them up from school.

The main fallacies associated with causal reasoning fall under the headings of overlooking coincidence, mistaking direction of cause, overlooking a shared cause, multiple causes, the placebo effect, and mistaking cause for correlation (the Sod's law fallacy). These apply to either one or both of the types of correlation outlined in the previous two paragraphs.

OVERLOOKING COINCIDENCE

If two events regularly occur together but are not causally related, the chances are that they have a shared cause (see below). With singular or unusual events there is a strong possibility of mistaking mere coincidence for cause. My belief about my MP3 on button is an example of this, as are many superstitions. Every so often in the news we hear

about 'super-centenarians' – people who have lived past 110: 'What is their secret?' is often asked, but no one knows, and the replies are clear cases of coincidences pretending to be causes. In a brief article on the subject in the *Fortean Times* various super-centenarians told us their secrets:[1] Besse Cooper (116 years) said 'I mind my own business and I don't eat junk food'; ex-postman Jiroemon Kimura (also 116) put it down to 'the sun', but on other occasions said it was caused by his diet (e.g., steamed fish), exercise, and early rising. Magomed Labazanov (122) claimed it was 'abstaining from alcohol, tobacco and women'. Maybe some of these can contribute to a given individual living past 110, but even if they do it would be prohibitively difficult to test these causal claims. Or maybe, as David Attenborough once said about living into his 90s, it's 'pure luck'.

At the other end of life, our youngest child was a week overdue so we found ourselves being fed, and occasionally looking for, advice on how to induce labour: raspberry leaf tea, bumpy rides, pineapple, walks, sex, curry. Having no other pressing engagements my wife (and I) spent an afternoon doing lots of these things, and the next day she went into labour – AMAZING! Like the super-centenarians, these recommendations are largely anecdotal; *no one knows*.

One other example is more serious because it identifies a type of mistake made in formal scientific reasoning. The phenomenon known as **regression to the mean** predicts that an extreme measurement for any phenomenon will typically be followed by a less extreme one. For example, when trying to understand pain and other symptoms, these tend to occur in cycles – severe → less severe → severe and so on – and there is a reasonable chance that people will seek medical intervention when their symptoms are at, or close to, their worst. If pain relief or other medication is then supplied this will typically correlate with a reduction in symptoms, and consequently in the belief that it was the medication that caused this reduction. For this reason, clinical trials need to control for, not just the **placebo effect** (which is considered below), but for regression to the mean as well.

Less weighty examples are found in sport. As hard-to-please cricket pundit Geoffrey Boycott was keen to point out, getting too excited about the then young England batsman Ben Stokes's record-breaking 258 runs in the Second Test against South Africa

in January 2016 is premature; he has to consistently score high to really prove his self. More recently, a year after Emma Raducanu's extraordinary victory at the US Open in 2021 caused great optimism among British tennis fans, she was back to having to qualify for major tournaments.

MISTAKING DIRECTION OF CAUSE

As indicated, correlated events observed on repeated occasions are likely to be linked in some respect, and the mistake is to jump to unwarranted conclusions about the nature of this link. However plausible a causal connection seems, it is worth reversing it to see if there's another possibility. In fact, the more plausible the direction of cause seems, the more revelatory a reversal can be. Group psychotherapist Irvin Yalom (1980) describes the case of Eve, who was reluctant to fully engage with the other members of the group, or to discuss herself except in the vaguest of terms. Finally, she was confronted with the negative effect this was having on the others, and Yalom encouraged her to take more of a risk by making more honest and direct comments. At this point she revealed that she was an alcoholic, and said that the shame this led her to feel was the reason for keeping herself hidden. Yalom, though, proceeded to reverse her causal argument, suggesting,

> she did not hide herself because she drank, she drank because she hid herself. (ibid, p. 394)

Yalom's theory about Eve was that her underlying loneliness, created by an inability or unwillingness to connect with others, caused her drinking. Primarily, the drink was a means of coping with her isolation, rather than her isolation resulting from the shame associated with her drinking.

OVERLOOKING A SHARED CAUSE

A third type of mistake in causal reasoning is to overlook a cause that is shared by the correlated events. If religious people are happier on average than non-religious people this could be because religion leads to greater happiness, but it could also be that a third variable – for

example, religious families being more stable – results in both the happiness and the religious commitment.

In a contrasting example, research in 2015 into the relationship between teenage goths and mental illness[2] was widely reported in the news as

> Goths three times more likely to suffer depression or self-harm

Although this headline does not necessarily state that being a goth causes or contributes to depression, this is what is implied, presumably because it makes for a better story. Read on and the issue of direction of cause is usually mentioned in press coverage, and the article itself, though very cautious about causation, suggests that identifying with the goth subculture does increase vulnerability to depression and self-harm (rather than a reversal in which mental health issues make it more likely that a person identifies as a goth). However, the authors readily acknowledge that they are not in a position to rule this out and, importantly, nor do they rule out **shared causes** such as 'stigma and social ostracism' (a key aspect of the article that was sometimes overlooked in the news). In other words, rather than 'peer contagion' (hanging out with other goths) being the sole, or even contributing, cause of these mental disorders, both the disorders and the goth identification could have a shared cause in underlying conditions such as social exclusion and bullying.

The visibility of the variables in question – in this case mental disorders and being a goth – and the simplicity of certain causal explanations (perhaps combined with certain stereotypes) is prime **System 1 candy**. Shared causes are far less obvious and require more imaginative hypothesising, and thus we are vulnerable to overlooking them.

Another example is found in an assessment by John Oliver (in HBO's *Last Week Tonight*) of the conspiracy theory that 5G masts are spreading Covid.[3] The theory is based on a correlation between the siting of these masts and high rates of coronavirus, but Oliver points out that these transmitters tend to be sited in areas of high population density, which is also where Covid outbreaks are most likely. High population density is, then, the reason behind both the existence of 5G masts and increased rates of Covid, rather than 5G masts being responsible for spreading the disease.

OVERLOOKING MULTIPLE CAUSES

System 1's fondness for jumping to conclusions is abetted by a dislike of complexity. What's been called the 'narrative fallacy' (see below) is explained by a desire for coherence in our understanding of the world, and this is achieved by ignoring gaps in our knowledge. Unfortunately, few interesting things have simple causal stories, and so critical thinking must alert us to the fallacy of **oversimplification of causes**. For example, there is a widely held belief that it was the fire of London in 1666 that ended the bubonic plague epidemic in England that had started the previous year. Current thinking on the issue, although still not settled, is that the full picture is more complicated. Although the fire did kill many of the plague flea carrying black rats, the plague was on its way out anyway. Theories suggest that this was partly because black rats were being displaced by the relatively non-plague transmitting brown rat, and that the cold weather that autumn (the fire happened in September) killed off the remaining fleas.

Once again, the cognitive availability of the fire and the plague, and the rough plausibility of one destroying the other, is likely to be at least partly responsible for the myth's perpetuation. But whether this is the case or not, the attraction of simple causal stories is again demonstrated. Further examples include the cause of the American Civil War (which was not just about slavery), and the connection to the popularity of conspiracy theories is explored below (see The narrative fallacy).

THE PLACEBO EFFECT

The **placebo effect** can be defined as someone's expectation that an intervention (such as a drug) for a certain condition will work causes the condition to improve, rather than the intervention itself being the cause of the improvement.

Mistaking a placebo's effect for the intervention's effect forms a separate category of causal reasoning error because it is not a coincidence, nor a mistake about the direction of cause, nor an overlooking of a shared cause, and nor does it have to be one among multiple causes. Instead, the cause is very much connected with the mistaken cause, but in a way that is peculiarly indirect. I say 'peculiarly' because

the actual cause (the patient's expectation) is of a different order to the supposed cause (a directly physiological one). With non-peculiar cases of causation an indirect cause is typically part of a chain of cause and effect, and the error would be to miss a link in the chain, but overlooking a placebo effect is to overlook a different chain altogether that has its own beginning in the patient's psychology.

In medicine the placebo effect is a well-recognised (if not well-understood) phenomenon that clinical trials need to be conscious of in their design. For example, if half the patients in a trial are taking a new drug and half the same drug as before, although all participants will be told that they taking part in a trial, it is crucial not to tell them which group they will be in.

It is also important that trials are 'double-blind', which means that not only are the participants unaware of whether they are in the intervention or placebo group, the experimenters are also unaware of who's who. The reasons for this are that:

- This knowledge can unconsciously bias the way experimenters observe and interpret results.
- Experimenters' expectations can be communicated unknowingly to participants, which can then influence their experiences and behaviour.

This latter phenomenon is known as a 'self-fulfilling prophecy', which itself shares features with the placebo effect. Examples of this are the 'pygmalion effect' and its opposite, the 'golem effect'. In their book *Pygmalion in the Classroom* ([1968] 2003) Robert Rosenthal and Lenore Jacobson demonstrated how teachers' expectations about children's abilities would unconsciously affect these children's educational attainment. Take two groups of school pupils of equal ability, tell one teacher that their group are predicted (by a fictitious test) to make an intellectual 'spurt'; tell the other nothing, and at the end of a school year the performance of the first group will tend to be significantly better than the control. One suggested reason for this is that teachers with high expectations are more likely to praise the effort children put into their work, reinforcing the belief that effort pays off, and thus encouraging persistence. In contrast, teachers with lower expectations focus more on correcting negative elements of pupils' work. The absence of feedback about effort leads to these

students attributing success and failure to ability rather than effort, thus discouraging persistence (Cooper, 1979).

What overlooking the placebo effect and overlooking self-fulfilling prophecies share is a failure to account for the psychological influence of actors within certain contexts. Both practitioners and the pubic are now reasonably familiar with these phenomena, but we can nevertheless be surprised by the potency of unconscious processes in affecting physical and social change. For this reason, and perhaps because of their relative invisibility, they are easy to overlook or dismiss.

MISTAKING CAUSE FOR CORRELATION (SOD'S LAW FALLACY)

We are often motivated to jump to conclusions and affirm causal relationships between phenomena without sufficient reasoning or evidence. However, we can also be motivated to do the reverse and **mistake cause for correlation**. This could take the form of a rationalisation in a situation where we want to avoid having to take responsibility. For instance:

> When I drove at 50 in a 30mph zone, *that's* when I ran over a dog. Sod's law I suppose.

Sod's law means that things tend to go wrong at the most inconvenient time, and is essentially about bad luck. It is Sod's law that my boiler breaks down the very month that car and house insurance are due for renewal, and all those things in Alanis Morissette's song *Ironic* are examples of Sod's law (rather than being ironic). In the driving example it is not Sod's law that you ran someone's dog down, it was because you were driving too fast and couldn't stop in time. To make yourself feel better you infer an unfortunate coincidence of events rather than accepting a causal relationship between your speed and the accident occurring. In Boris Johnson's resignation speech in July 2022 he famously said 'them's the breaks'. He was implying it was bad luck that ended his tenure as prime minister rather the persistent erosion of backbench MP's and eventually his cabinet's trust caused by, among other things, his dishonesty and sense of entitlement. If nothing else this parting phrase was true to form.

A somewhat different set of motivations lie behind this next example. In October 2015 the singer and activist Charlotte Church

appeared on the live UK political debate show *Question Time*, and among other things suggested that climate change was partially responsible for the Syrian crisis. A few days later *The Sun* (the UK's best-selling tabloid newspaper) found this hilarious, mocking the statement under the sub-header: CHARLOTTE ON … SYRIA. On the face of it this assertion does seem far-fetched, and coming from someone perceived as a political non-expert it can easily be portrayed as silly or naïve. However, she was referring to a serious piece of research that indicated a plausible connection between these things. It is known as the 'food shock' argument (extreme weather such as droughts leading to globally significant food shortages which have a disproportionate effect on poorer places, especially those reliant on imports) and connects a food shock in 2011 to civil unrest in the Middle East and the Arab Spring. This is then causally connected with the rise of IS and the devastating effects of the Syrian civil war. 'In a sense what we're living with IS today came out of a spark that came from food price rises,' says Professor Tim Benton of the UK Global Food Security Program and the University of Leeds. The link to climate change is that it is making food shocks far more frequent than they were (a one in a hundred years to a one in thirty years phenomenon, and potentially a seven in ten years phenomenon in 2070), and perhaps more to the point in terms of Church's message, this kind of humanitarian disaster serves as a synecdoche (meaning a small part of something representing the whole) for the kinds of impacts climate change will have.[4]

CRITICAL QUESTIONS FOR CAUSAL ARGUMENTS

The critical questions that can be applied to causal arguments correspond to the headings above (overlooking coincidence, mistaking direction of cause, overlooking a shared cause, multiple causes, the placebo effect, and mistaking cause for correlation (the Sod's law fallacy):

Q1: Has a correlation been identified?
Q2: If so, how convincing is the causal reasoning that attempts to explain the phenomenon in question?

This second critical question can then be answered in accordance with the headings above:

> Can the correlation be explained by coincidence?
> Can the causal relationship be reversed?
> Can the correlation be explained by a shared cause?
> Have multiple causes been overlooked?
> Can the correlation be explained by psychological phenomena such as the placebo effect or a self-fulfilling prophecy?
> Are there reasons for thinking that the possibility of a causal relationship (rather than a mere correlation) has been dismissed too quickly or for the wrong reasons?

CAUSAL ARGUMENTS: PSYCHOLOGY AND RHETORIC

Errors in causal reasoning are exacerbated by several features of our psychology:

- We like to have explanations rather than remaining uncertain about why things happen.
- The explanations we come up with, or more readily believe, will typically be consistent with our present assumptions about how the world is.
- As we have seen, seeking coherence is a fundamental motivator of **System 1 thinking**, making it more likely that we will jump to roughly coherent, but incorrect conclusions.

When our Halloween pumpkins begin to rot the first thing that happens is the jaw collapses, closing the mouth and giving it the appearance of its pre-carved form. A few years back our then 4-year-old reasoned that it 'wants to be a pumpkin again' – i.e., rejecting the grotesque face I had carved. And like many children of that age, he had surmised that the clouds rain in order to water the plants. The need for causal explanations is evidenced by kids' constant 'why' questions, but before abstract scientific reasoning is a cognitive option for them, they attempt to make sense of the world in accordance with what they do understand – conscious intentions.

Two areas of research that make particularly interesting contributions to our understanding of causal reasoning errors are the psychology of superstition, and what's been termed the **narrative fallacy**.

SUPERSTITION

In his investigations into trial-and-error learning ('operant conditioning') in rats and pigeons, behavioural psychologist B.F. Skinner conditioned superstitious behaviour. Most of Skinner's experiments investigated animal learning in situations in which there is a causal relation between behaviour and a reward; a pigeon must learn to peck a button when a light comes on in order to receive food, for example. In his studies of superstition, however, this causal connection was absent. Food was presented to the (hungry) pigeons at regular intervals, and nothing the birds did could alter this. Despite this it was observed that in most cases an action randomly performed just prior to the food arriving would then be repeated. If the repetition coincided with the next scheduled delivery of food, then that behaviour – turning around in a certain direction, a 'pendulum motion of the head and body' for instance – would be learned.[5] Correlation is confused with cause, and the pigeons' behaviours have the appearance of a ritual.

While pigeons cannot fathom the underlying causal features of the situation, humans as a species have, as we know, become very good at this. Nevertheless, we are extremely superstitious, suggesting an adaptive advantage to being sensitive to correlations, which in turn causes a negative emotional response to the interruption of routines. System 2 knows that the colour of your socks has no effect on how well you will perform in the exam, but this won't make System 1's anxiety at the prospect of wearing stripes rather than just black go away without a struggle.

In his book *Caveman Logic* (2009) Hank Davis examines the widespread nature of superstitious beliefs and behaviours, and his evolutionary explanation is that interpreting causality on the basis of too little evidence had greater survival prospects than its reverse (i.e., being overly conservative in such judgements). Why is this? One answer is simply the value of heuristics, as discussed in Chapter 1: inheriting and being disposed to learn a range of intellectual shortcuts rather than a bias towards the slow analysis of causal relationships seems to have been more adaptively advantageous for our ancestors.

Another answer – one that is directly pertinent to superstition – is that feeling in control of situations that we are in fact not in control of is beneficial to us. Several reasons have been suggested for why this is, including the idea that the confidence this inspires, although resulting in some mistakes, also has beneficial side-effects. One of these is being motivated to put more effort into our endeavours, so that when we can in fact influence outcomes, those outcomes are all the more impressive.

THE NARRATIVE FALLACY

The coherency of a causal explanation – for example, that it is consistent with known truths – is a necessary but far from sufficient condition for the truth of that explanation. It is easy to concoct multiple alternative explanations for a phenomenon, but the difficult part is establishing which, if any, of these is true. Here again we encounter our dislike of uncertainty, and our resulting tendency to jump to unwarranted conclusions.

The **narrative fallacy** is a term coined by risk scholar Nassim Taleb in his book *The Black Swan* (2007, Ch.6). It refers to our attraction to, and confidence in, coherent but simple causal explanations at the expense of an appreciation of complex and unknown or random variables. Also known as the 'illusion of understanding', it is a prime case of System 1's fondness for simplicity and coherence, but is also motivated by our desire to make sense of the world rather than acknowledge the limitations of our understanding (see Kahneman, 2012, Ch.19). This leads us to invent (or readily accept), and then act upon, straightforward but inaccurate causal stories.

One account of the appeal of wildly implausible (or 'unwarranted') conspiracy theories (e.g., that alien visitations are being covered up by governments or the Covid epidemic was a hoax) is that they embody a convenient or comforting idea that the world is ultimately open to being explained.[6] Instead of acknowledging the unpredictability (and thus uncontrollability) that we should expect from an existence that is vast, complex, and inherently devoid of overall purpose or plan, some are drawn to theories of powerful, coordinated, covert intent.

The philosophically deep (and quite spooky) drama series *The Leftovers* is an excellent case study of the circumstances, motivations, and outcomes of the narrative fallacy. The situation could not be

more random – a huge event that is devastating for billions as 2% of the world's population (140m people) disappear without trace for (1) no reason and (2) with no way to even begin to imagine what could have caused it. The main upshot is a range of desperate theories, including religious ones, that are an attempt to cope with the situation and its possible recurrence.

The 'hindsight bias' is a version of the narrative fallacy in which our preference for simple causal explanations leads to the heartfelt exclamation 'I knew it!' when we knew nothing of the sort. In one experimental design, participants assess the likelihood of various outcomes before an event has happened, and then again after it has occurred. The result is that people misremember their original guesses to bring them more in line with the outcome; they believe they thought it was more likely than they in fact did. In effect the outcome of an event determines how we perceive its predictability, and Kahneman (2012, p.204) sees the hindsight bias as especially damaging because it leads to people being blamed for negative outcomes they could not reasonably have been expected to predict (9/11 is one example he uses). Worse still, this in turn leads to a tendency towards risk-aversion in future decision-making.

CAUSAL ARGUMENTS, DISPOSITIONS, AND CONSTRUCTIVE DIALOGUES

The narrative fallacy provides psychological insight into all of the causal fallacies explored in this chapter, which share two essential features: seeing causes where they do not exist, and overlooking complexity. For the most part we like to be able to control or at least predict our environments, but there are an awful lot of things that affect us that are unknown. Combine this state of affairs with our deep-seated tendency to see causal connections where they do not exist, or to oversimplify, and you can see how vulnerable we are to false claims about how buying this product, performing this behaviour, or voting for this party will make us happier. Towards protecting ourselves we need to:

- Work towards greater clarity about what we can and cannot know, control, or predict;

- Develop metacognitive awareness of the conflict between *how things are* in terms of what we can control and predict, and how we would *like them to be* (see previous references to the **self-serving bias** and **motivated reasoning**);
- Develop metacognitive awareness of our proneness to superstition and the narrative fallacy.

We need to learn to tolerate uncertainty and be more like Juror 8 in *Twelve Angry Men*. The illusion of control, like other self-serving biases, is in opposition to modesty, understood as a realistic perception of our attributes and abilities. From a dialogical perspective, encountering overconfidence in others can be demotivating and lead to antagonism. Moreover, jumping to conclusions has an unfortunate self-fulfilling tendency. The principle of **commitment and consistency** (see Chapter 1) predicts that once we have taken a position (such as 'the defendant is guilty'), especially where this is made public, it is hard to go back on. Being consistent is very important, implying as it does dispositions such as wisdom, trustworthiness, and not being unduly influenced by peer pressure. If a conclusion is prematurely declared, therefore, revising it can come at a cost. If this cost is (consciously or unconsciously) seen as too high, then (consciously or unconsciously) we may choose to dig in rather than go where the evidence should be taking us.

Dialogues will often be more productive if firm conclusions are avoided too early on. It is far better to declare oneself as currently agnostic until the issue has been further discussed, or to qualify one's position so that a change of mind does not lead to embarrassment (or worse): 'I'm inclined to this view on the matter, but this isn't a firm conviction and I'm open to being persuaded otherwise'; or 'I think this is probably true, but I'm not entirely sure and would like to know more before reaching a conclusion.'

8.2 GENERALISATIONS

Causal arguments are often generalisations, but not all generalisations are causal arguments. Another type involves arguing from qualities that characterise a particular class of things (bicycles, flowers, politicians, scientific theories, vegetables, and so on) to the expected

qualities of individual instances of that class (the old but reliable hybrid I ride to work on, geraniums, Jacinda Ardern, string theory, runner beans). Perhaps the most recognisable version of a generalisation is the reverse of this; arguing from a single instance or a sample of something to claims about those things as a whole: string theory is tough to understand, therefore all scientific theories are tough to understand.

In a similar fashion to causal arguments, generalisations are fundamental to scientific reasoning. A significant proportion of the methodological knowledge and skills of scientists is about the legitimacy of generalisations: what constitutes a large enough and representative sample; understanding the degree of strength that a generalisation holds; and the statistical methods appropriate for finding these things out. At the end of this chapter you will find recommendations for critical thinking textbooks which go into detail about generalisations, often with a philosophy of science perspective, but you should also bear in mind that texts on natural and social scientific research methods are also an important (and often overlooked) critical thinking resource.

Generalisations are most commonly classified as **absolute** (also known as 'universal', 'strict', or 'hard'), and **non-absolute** (also known as 'non-universal', 'inductive', or 'soft'). Absolute generalisations claim that all of a certain type of thing are a certain way (like 'all countries have flags'), and non-absolute generalisations claim that most or the majority of a type of thing are a certain way (like 'most countries have land borders with other countries'). Non-absolute generalisations can be subdivided into statistical and non-statistical forms. The latter will use vague terms like 'most', whilst the former quantify probabilities in terms of percentages and other fractions.

The statistical/non-statistical division has relevance to a third type of generalisation that aligns with **plausible arguments** (see Chapter 5). As characterised by Douglas Walton (2006, pp.17–19), a **defeasible generalisation** (full name: a 'presumptive defeasible generalisation') is an attempt to apply a generally accepted belief to a particular instance.

Unlike absolute and non-absolute generalisations they do not typically involve qualifiers like 'all' or 'most', and they certainly never

involve statistics. Their most important feature is their practical and contextualised nature. They are saying that prior personal experience and common knowledge has established the right to presume X about situation Y in circumstances where more rigorous investigation is not practical; 'meat that is before its sell-by date and which has been stored in the fridge is edible', for example.

Defeasible generalisations are, then, inherently provisional; there is a background assumption that exceptions to the rule are always likely. Since, however, the burden of proof falls to those who want to claim an exception in this instance, they risk perpetuating stereotypes: seemingly plausible generalisations derived from common knowledge that is inaccurate, or personal experience that is skewed by cognitive biases. This will be addressed under 'Sweeping generalisations', below.

The general formal structures of arguments employing a generalisation are these:

***FROM A SPECIFIC INSTANCE TO THE WHOLE*:**

P1: All (or most) observed instances of X have characteristic Y.
C: Therefore all (or most) instances of X will have characteristic Y

***FROM THE WHOLE TO A SPECIFIC INSTANCE*:**

P1: The class of things X typically exhibit characteristic Y.
C: Therefore Z (which is a member of class X) will typically exhibit characteristic Y.

The remainder of this section will explain and discuss the main fallacies associated with generalisations: **hasty generalisations** and **sweeping generalisations**.

HASTY GENERALISATIONS

In her research into everyday argumentation, Deana Kuhn studied people's reasoning on a couple of topics, including why people fail at school. One participant illustrated a certain pattern of reasoning when, after explaining failure in terms of laziness and peer pressure,

gives this response to the question: 'How do you know this is the cause?'

> [Because] I see it around me, you know. I have friends who fail. They figure it's the right thing to do, and, you know, they just get lazy or want to hang out with their friends. (Kuhn, 1991, p. 74)

This is a case of generalising from too few examples to a conclusion about the whole and, as with many cases like this (we're all guilty), the too few examples come from our own personal experiences. It is understandable why we do this; our experiences are vivid and concrete and thus collude with the availability heuristic and have broad appeal to the **experiential system** (see Chapter 2). They exaggerate the relevance of the pattern in question, prompting us to jump to a conclusion.

Hasty generalisations are also known as the 'fallacy of insufficient statistics' or as a 'sampling error'. In social science generalising from a sample to a whole population is basic to its methodology. Since testing or observing the whole population is usually too time-consuming and costly, sampling and statistical methods have been devised which are quite reliable in their predictions. In the hands of those suitably trained, generalisations in these academic and applied contexts – such as market research and opinion polls – are not fallacious when appropriately derived and when their limitations are known and accounted for. Where this is not the case, hasty generalisations can occur. These take two general forms: too small a sample, and an unrepresentative sample.

The previous example is problematic in both of these respects: the people this person knows who have failed at school will not be a large enough sample to base a prediction about the whole of America on (although an appropriately sized sample is far smaller than we might typically imagine – 1,000–2,000 people); and it is highly unlikely that they would be representative in terms of the demographics they represent (age, gender, race, region, social class, and so on).

A variation on unrepresentative samples is what is known as **cherry picking**. This means that information or examples that conform to your hypothesis or that present your position in a flattering light are presented as evidence, while non-conforming or unflattering data is ignored or supressed. We can cherry pick in a non-deliberate way (unconsciously driven by the confirmation bias), but it can also be a deliberate attempt to misrepresent the available data. The main difference between an unrepresentative sample and cherry picking is that

with cherry picking a more complete set of information is available but not shared, whereas with an unrepresentative sample only a partial data set exists (or in the failing at school type of example above, is known to the person presenting the argument).

Superficial and one-sided communications such as advertisements, company annual reports, CVs, or social media personal profiles will cherry pick like there's no tomorrow. This might be undesirable, but is at least something that we expect to happen. In other contexts it is more troubling. It has been a common tactic of organised corporate and political denial of the health risks from smoking and global environmental issues, and, as Ben Goldacre argues, is commonly used in research carried out by advocates of alternative therapies and nutritionism.[7]

SWEEPING GENERALISATIONS

The other topic Deana Kuhn used to study people's everyday reasoning skills was criminals reoffending. In one example a participant accounts for reoffending in the following way:

> Human beings are very much creatures of habit, and I don't think that there's such a habit as committing a crime, but everything that leads up to committing a crime is probably habit. (Kuhn, 1991, p.60)

Asked how they know the participant replies,

> I'm not certain, but it just seems pretty obvious from all other spheres of life, people are so set in their ways. (ibid)

In cases like this a broad assumption about a phenomenon is used to predict the cause of a specific instance: human beings are 'creatures of habit' therefore reoffending will be the result of habit. As the beginning of a process of hypothesis forming there is nothing wrong with this – habit is a major component of human behaviour and it is reasonable to assume that it plays a part in reoffending – but if this is the only cause suggested, then the arguer runs the risk of presenting a sweeping generalisation.

An example of a sweeping generalisation in ethics might be:

> Killing people is always wrong.

In the hands of a pacifist this is defensible, but more usually in a conversation it is the work of System 1 and needs qualifying. There

are, for instance, many examples of killing that can be argued to be morally acceptable, such as combatants in battle, euthanasia, capital punishment, and self-defence.

We refer to a generalisation as 'sweeping' when the context requires us to know about a particular instance rather than the class was a whole. My knowing that Nissans are reliable cars has limited value when deciding whether or not to buy this particular ten-years-old-with-three-previous-owners Nissan. Knowing that philosophy graduates tend to be better than average critical thinkers does not mean an employer should assume this about the philosophy graduate they are about to interview. The very notion of a stereotype encompasses this kind of problem. Generalisations are important and useful in all sorts of ways, but in the wrong context they become oversimplifications that, in the case of social categories such as race and gender, can be highly offensive.

'Stereotype' also refers to generalisations that are inaccurate in the first place. As we saw above, **defeasible generalisations** run the risk of being simply off the mark. It is one thing to be open to exceptions to the rule (which is crucial to the correct presentation and dialogical handling of these kinds of generalisations), but quite another for the rule to be wrong in the first place. To say that people from the Home Counties of England (the areas surrounding London) are posh Tories might be intended as a defeasible generalisation, but is in fact implausible because it is based on a gross oversimplification of the people who live in this region. Stereotype therefore means two things: reducing an individual to a generalised truth about a category to which they belong; and oversimplifying and thus distorting the nature of the category in the first place. The first of these is a form of sweeping generalisation, and the second is a hasty generalisation.

CRITICAL QUESTIONS

In light of the above discussions, the main critical questions that can be applied to arguments involving generalisations are these:

FOR ABSOLUTE AND NON-ABSOLUTE GENERALISATIONS:

Q1: Is the generalisation made based on a large enough sample?

Q2: If so, is the generalisation made based on a representative sample?

FOR DEFEASIBLE GENERALISATIONS:

Q3: Is the generalisation plausible?

FOR ALL GENERALISATIONS:

Q4: Is this a context in which applying a generalised truth is appropriate?

GENERALISATIONS: PSYCHOLOGY AND RHETORIC

We are fond of generalisations; they render a complex, probabilistic, and hard to predict world seem a simpler place. For philosopher and psychologist William James we are 'absolutists by instinct'[8], and in *The Art of Rhetoric* Aristotle (1991) observed how generalisations appeal to prejudicial tendencies in audiences. We like to make quick leaps from particulars to the general, and in persuasive communication he identifies the use of maxims as especially effective for providing generalised legitimacy to the audience's limited experiences. Maxims are broad truths communicated in a single sentence, and spoken by the right person they carry a form of moral wisdom. Among Aristotle's examples are: 'He is no lover that not always loves', and 'Do not, thou mortal, harbour deathless anger'. Although leaving us pretty cold, these would have been familiar to Athenian audiences, and familiarity is crucial for their effectiveness. In modern Anglophone cultures we recognise expressions like 'Actions speak louder than words' and 'All things in moderation' (or better still, Oscar Wilde's 'All things in moderation including moderation').

Generalisations are, then, strangely satisfying, and they can also be quite entertaining. Spoken word artist and comedian Henry Rollins observes how they are 'never right, always fun'[9]; a particularly good line since it is itself a generalisation that is not accurate (since some generalisations can be right, and are, as we've just seen, not necessarily fun). Humour is full of generalisations, and no doubt this is in part because we enjoy the fantasy of a simplified world and the momentary release it affords. But journalism and many other forms of

communication are also full of generalisations, and where the genre in question is not just entertainment then our liking for how they represent the world can be a serious impediment to critical thinking.

As cognitive-behavioural therapy (CBT) demonstrates, generalisations do not necessarily lose their appeal even when they work against the individual. Mental disorders such as depression and anxiety are caused and maintained by people's inaccurate (or 'inefficient') beliefs. Originator of CBT Aaron Beck identified 'basic errors' of thought in patients such as overgeneralisations and black and white thinking, and among the 'irrational beliefs' listed by another prime mover in this field, Albert Ellis, are absolutes and generalisations like:

> One should be loved by everyone for everything one does.
> One should be thoroughly competent, intelligent and achieving in all respects.
> Because something once affected one's life, it will indefinitely affect it.
> Because I had bad luck once, I will always have it.[10]

CBT seeks out unrealistic and inflexible patterns of thought that have become automatic responses to situations and guides to behaviour. In a therapeutic context the aim is to help people replace these with healthier, largely more accurate, ways of thinking, and the relative success of this form of intervention is evidence for the broad benefits of critical thinking.

Of particular interest to CBT are causal generalisations. Harmful assumptions, such as bad luck always being with us, involve erroneous beliefs about the nature of luck. People suffering depression are more likely than others to wrongly attribute negative events to features internal to them (such as personality traits), and positive events to external causes. It is easy to see how biased generalisations of this kind will take a cumulative toll on an individual's self-esteem.

GENERALISATIONS, DISPOSITIONS, AND CONSTRUCTIVE DIALOGUES

Towards protecting ourselves against the tendency to be seduced by generalisations, much of the discussion in the equivalent section to this under 'Causal arguments and causal fallacies' is pertinent. In addition, however, overgeneralisations are a form of excess that we need to moderate and so temperance is also very important. Like Oscar Wilde (and Uncle Vance) I would suggest that a life without

moments of excess is unfulfilling for many of us, but there is a time and a place, and in most respects an excess of generalisations, tempting though they are, is not amenable to the pursuit of truth.

Comments made in the causal arguments section about declaring your position too soon and the premature closing down of dialogues are also relevant to generalisations. Making absolutist statements can force us into having to defend them even when we come to realise their problems (a single counterexample is enough to defeat them). Probabilistic statements, on the other hand – especially vague or 'soft' ones containing words like 'most', 'many', 'the majority', or 'usually' –allow for flexibility in the positions we arrive at without appearing inconsistent.

A form of defence we can be pushed into as a result of an ill-thought-through generalisation is the 'no true Scotsman' fallacy. Also referred to as an 'ad hoc rescue', it involves changing the definition of the class of things in question so as to avoid an absolute generalisation being defeated by a counterexample. The name comes from philosopher Anthony Flew's original example of a Scotsman reading about a brutal crime committed by an Englishman in the paper and proclaiming that no Scotsman would do such a thing. The next day he reads about a worse crime committed by a man from Aberdeen (in Scotland), but instead of acknowledging the inaccuracy of his generalisation, he insists that this person is 'no *true* Scotsman'. In an ad hoc fashion – meaning that it is created in order to deal with a previously unconsidered contingency rather than being part of the original planning – he has changed the definition of a Scotsman from a (presumed) geographical one to one that specifies certain traits or behaviours (Flew, 1985, p.49). The desperation of such a manoeuvre is pretty clear, but in technical terms the arguer has re-established the validity of the argument by arbitrarily changing the definition of what he is arguing about.

In an article about conspiracy theories, Matthew Dentith makes the point that sometimes they are true, but have come to be defined as something that is false. He is arguing against this 'no true Scotsman' attitude, and is concerned that real conspiracies will be missed as a result:

> Conspiracy theories sometimes turn out to be warranted, although many deny this by saying: 'Ah, but then it's not really a conspiracy theory, is it?' ... We have been told that conspiracy theories are bunk, and so we treat them as such. [11]

8.3 ARGUMENTS FROM CONSEQUENCES AND SLIPPERY SLOPE ARGUMENTS

Causal arguments and generalisations are basic to many deliberations because they help us to determine the consequences of our decisions. Decisions can be argued for because of the positive consequences they will bring about, or they can be argued against because of foreseen negative consequences. In both instances, judgements are often based on relative positive and negative consequences: we should do X because it will bring greater benefits than Y; or we should not do P because it will bring worse consequences than Q.

Thus, the basic structure of an argument from consequences is this:

***POSITIVE FORM*:**

P1: Deciding X will bring about consequence Y.
P2: Consequence Y is better than the consequences that will arise from alternatives to X.
C: Therefore we should decide X.

***NEGATIVE FORM*:**

P1: Deciding X will bring about consequence Y.
P2: Consequence Y is worse than the consequences that will arise from alternatives to X.
C: Therefore we should not decide X.

The **critical questions** applicable to arguments from consequences are these:

Q1: Is this a situation in which the consequences of a decision are the appropriate standard of evaluation?
Q2: How sure are we that deciding X will actually bring about Y?
Q3: Is consequence Y clearly good/bad in the way that is being claimed?
Q4: If so, is it better/worse than consequences arising from alternative decisions?

Q5: If so, is the right degree of certainty established in order for us to make a decision to encourage/allow/prevent consequence Y from occurring?

Regarding the use of drones in attacks on terrorist suspects, the following negative argument from consequences is made:

> If targeted drone strikes become legitimized in this context, the need to try other means first to quell the threat may be diminished. The risk becomes that military leaders will bypass nonlethal alternatives, such as apprehending alleged terrorists and continued surveillance, and move straight to extrajudicial killing as the standard way of dealing with the perceived threat of terrorism.[12]

The context of the discussion is just war theory, and one of the criteria for deciding if waging a war is just is whether it is a last resort. If drone strikes are considered 'actions short of war', then their becoming acceptable could corrupt the 'avoiding violence' impetus behind this criterion. The negative argument from consequences concerning this use of drones can satisfy Q1 and Q3, and there is possibly a case for an affirmative answer to Q2. However, because there are a number of other arguments for and against drone strikes and their relationship to just war theory (e.g., greater precision leading to fewer civilian casualties, but also less likelihood of surrender since the other side do not feel that they are fighting a real enemy) then Q4 is complicated to assess. We should be aware though that if, on balance, Q4 does not weigh against drone strikes, then greater certainty is needed in response to Q2.

SLIPPERY SLOPE ARGUMENTS

A type of argument from negative consequences that has received a lot of attention from scholars of informal logic is the **slippery slope argument**. A number of authors and textbooks will refer to this as the slippery slope fallacy (e.g., Johnson and Blair, 2006; Bowel and Kemp, 2009; Lunsford and Ruszkiewicz, 2010), but as Douglas Walton (2015) and others have argued, slippery slope arguments are not necessarily weak.

They share the general structure of arguments from negative consequences, but with these features:

- They claim that by bringing about an initial, relatively inconsequential (and possibly benign) occurrence, such as a policy change, a series of hard-to-stop consequences will follow.
- This series is hard to stop for two reasons: we have little or no control over its unfolding once it begins; and (in some instances because of the incremental nature of the change) there is a significant degree of indeterminacy about when this loss of control will actually occur.
- Once underway this sequence will then eventually lead to a final serious, or even catastrophic, negative consequence.

The tendency to treat slippery slope arguments as fallacies is due to the combination of speculative premises and a dramatic conclusion. They are, however, quite common in deliberative reasoning, and perhaps most conspicuously in debates about drug legislation and euthanasia. In both cases it is claimed that small changes to legislation that might, on the face of it, be acceptable (such as legalising cannabis or voluntary euthanasia) should not be enacted because this will lead to a cascade of uncontrollable consequences, the end point of which is highly unacceptable. In the case of drug laws, it is claimed that the links between cannabis and harder drugs (links that are not there with alcohol) will result in a greater number of heroin addicts. In the case of euthanasia, incremental changes in social attitudes towards death and the rights of the dying – including greater pressure perceived by the elderly to agree to terminate their lives even though it is not what they really want – will result in cases of involuntary euthanasia and in public acceptance of non-voluntary euthanasia.

Communicating the seriousness of climate change is challenging for several reasons, and one of them is that it has the form of a slippery slope argument. The IPCC's Sixth Assessment Report on climate change impacts (published in 2022) continues to make the case for urgent 'concerted anticipatory global action on adaptation and mitigation' to avoid the serious and wide-ranging consequences caused by changes (observed and predicted) to Earth systems. As a result of global temperature rises, its multiple sections report and predict 'cascading' and 'compounding' impacts, 'unavoidable increases

in multiple climate hazards', and, especially relevant for our purposes, 'irreversible losses' of ecosystems and the increased risk of reaching 'tipping points'.[13] The long-term consequences of the current, inadequate, level of response remains too easy to ignore for most, but predictions like these indicate not just a series of highly negative outcomes, but one's that we can't undo and that will themselves lead to increasingly terrible consequences.

The critical questions associated with slippery slope arguments share the ones for arguments from negative consequences, except that Q2 will need to be applied to every step in the sequence of consequences. Also, to evaluate the true slipperiness of the hypothesised slope, a sub-question must be added:

Q2a: Are there good reasons for thinking that a loss of control over consequences will occur during the sequence of cause and effect?

This could mean loss of control over purely physical events as in the climate change example, but also loss of control over subsequent actions of policymakers, or changes in public attitudes.

Applying this to the climate change argument: although some commentators highlight the benefits of climate change (such as Arctic shipping lanes opening up), most of us will accept that the predicted consequences of anything above 1.5°C rise will be very serious indeed. The argument thus satisfies Q3, and it also satisfies Q1 and presumably Q4. In response to Q2 the findings of the IPCC show that it is highly likely that not cutting emissions will lead to catastrophic outcomes, and it is of course greatly important that the report references the details of the research which confirms these predictions. With respect to Q2a, as we have seen, tipping points are involved (the nature of which is also explained in the details of the research), and these are, by definition, irreversible. When they will occur is uncertain, such that continuing to emit greenhouse gasses to the extent that we are is running a significant risk. Considering the devastating consequences brought about by these tipping points, the cautionary principle seems the only logical one to apply (Q5).

In contrast, arguments against the inevitable proliferation of onshore wind farms that will result from allowing some to be developed in

certain locations less obviously satisfies Q2a. More convincing was the case FIFA general secretary Jérôme Valcke's made against introducing goal line technology in football in 2010.

> If we start with goal line technology, then any part of the game and pitch will be a potential space where you could put in place technology to see if the ball was in or out, and then you end up with video replays. The door is closed.[14]

The door was later opened, and we have ended up with video replays. It is (so far) not for throw-ins, and since many agree that on balance the introduction of VAR is a good thing, it seems not to have landed us with a catastrophic consequence (Q3).

RELATIVES OF THE SLIPPERY SLOPE ARGUMENT

Care should be taken when labelling something a 'slippery slope argument', as other argument forms and fallacies bear a resemblance to it. These are important (or important to know about) in their own right, but differ from slippery slopes in important respects.

Complex causal sequences

Arguments from negative consequences that involve chains of causation, but no loss of control are not slippery slope arguments. The consequences of climate change without the tipping points would be just such an argument. And we should note that the difference is not trivial since policymakers and other deliberators need to know whether and at what points an unwanted series of events can be halted. To label a situation a slippery slope is to sound an alarm bell, and although in some cases this might be the aim, to misapply the label can lead to misplaced fear or panic.

The excessive waiting times for ambulances in parts of Britain in 2022 (and possibly beyond) was the result of a complex sequence of causes. There was no shortage of ambulances, but they were being held up at hospitals because of overcrowded A&E departments. Overcrowded A&E departments are caused by an absence of beds in other wards to move patients to, and this was the result of there being nowhere for patients to go because of a shortage of care workers in communities. It has been further suggested that the lack of care workers is caused

by Brexit, but even if this is true the situation is not irreversible. For example, if we need to rely on non-British people to be care workers then there is a system for granting visas to fill these vacancies.

Argument from precedent

An argument from precedent is one in which it is said that we should not do X, because if we did, we would have to allow Y and Z (etc.) to happen as well. The overturning of Roe v Wade in the US Supreme Court in June 2022 is a recent example. Among the arguments against this ruling is the concern that it will open the legal door to the repeal of laws regarding contraception and same sex marriage. As Kamala Harris put it, since the court's reasoning is that the right to abortion is not 'deeply rooted in the nation's history', then the same can be said of other more recently adopted rights that 'we thought were settled'.[15]

Worries about precedent-setting are more obviously forms of **arguments from analogy** (see Chapter 9) than slippery slope arguments. First, as with this example, detractors will often see something inherently troubling in the initial step, whereas with slippery slope arguments the consequences of the initial step are perceived as unproblematic or positive. Second, the plausibility of subsequent developments depends on the strength of the analogy rather than reasoning around cause and effect.

The continuum fallacy

The continuum fallacy is related to the *sorites* paradox. *Sorites* means 'heap' in Greek, and the paradox identifies the contrast between ideas that we confidently use in natural language, but which on analysis turn out to be unquantifiable. We can readily distinguish between a heap of sand and a handful of grains, but the process of adding single grains of sand to the handful and trying to establish the point at which it becomes a heap appears to be impossible. One grain is not going to be the difference, but this means that no matter how many single grains we add (or take away if we are talking about moving from a heap to a non-heap) the non-heap can never become a heap.

Nevertheless, we do still want to maintain that there is a meaningful difference between a non-heap and a heap, just as (sadly) there is

a difference between bald and non-bald (adding or subtracting single hairs creates the same kind of problem). We make this distinction through (1) acknowledging the inherent vagueness of these concepts, and (2) rejecting the idea that vagueness makes concepts meaningless or impractical. So, the fallacy is to conclude that because this incremental process cannot define where the line is drawn, there is in fact no line at all; no real difference between the concepts in question. There are countless examples of this kind of vagueness, including what counts as reasonable flexibility around a designated bedtime ('If I can have five more minutes, why not six?'), saplings and trees, or, more seriously, the point at which alcohol consumption impairs our ability to drive.

The relevance of the *sorites* paradox to slippery slope arguments should be clear. If used to argue against the justifiability of rules then it is usually a fallacy: allowing five minutes flexibility around bedtime does not mean that six is acceptable. Despite the vagueness, agreement can be reached both on roughly where the line should be drawn and, very importantly, that a line *must be drawn*. The drink driving limit in Scotland is 50 milligrams of alcohol in every 100 millilitres of blood. No doubt we are no less safe at 55 milligrams, but quite understandably the law cannot see it this way, and someone caught will be banned whether they have 55mg or 155mg.

Stronger *sorites*-type slippery slope arguments are found in situations where we are policing ourselves, and weakness of the will, perhaps caused by addictive or obsessive tendencies, predicts a loss of control. The alcoholic should simply not touch alcohol, the gambling addict not set foot in a casino or access online betting sites. In his autobiography, Ozzy Osborne acknowledges this side of his personality; in one example he recounts his teenage self's accelerated and very dangerous abuse of methylene chloride when operating an industrial degreasing machine. One sniff a day rapidly became 'every … five minutes … I couldn't stop myself'. One day he was found passed out, an ambulance was called, and for his own good he was fired.[16]

In circumstances like these the reasoning 'just one (or one more) won't hurt', is potentially catastrophic. Structurally similar, but with less severe consequences, there are occasions where I stop myself watching the short (20-minute) comedy shows *Community* or *It's Always Sunny in Philadelphia* before bed because my love of them is such that I know I'll struggle to keep it to 'just the one'.

SLIPPERY SLOPE ARGUMENTS: PSYCHOLOGY AND RHETORIC

In different respects, slippery slope arguments and their relatives can be seen as being too persuasive or not persuasive enough. Their power comes from the severity of the end point and the fear it provokes, and from the anxiety caused by the loss of control that results in this end point. (For more on the effects of fear and other emotions in argumentation see Chapter 2 and the section on *ad baculum* arguments in Chapter 6.) We should note though that a slippery slope argument in support of the status quo, such as not changing the laws concerning drugs or euthanasia, is far more likely to be successful than one requiring quite radical changes. Despite decades of overwhelming evidence for anthropogenic climate change and its negative consequences, the rate of technological and social change still works at a 'business as usual' pace. Under these circumstances the complexity of the slippery slope very likely assists our deep-seated desire to ignore the problem, or rationalise it away.[17]

Applied to rhetoric then, there appears to be a simple message: if campaigning to keep things as they are, the fear and anxiety provoked by slippery slope arguments could well work in your favour. But if campaigning for change, their complexity can provide an excuse for many to disengage. Also, since it is a quite a well-used and well-known argument form in public debates, the simple appearance of a slippery slope argument (including its relatives) could lead to an automatic dismissal of the issue or your stance on it.

SLIPPERY SLOPE ARGUMENTS, DISPOSITIONS, AND CONSTRUCTIVE DIALOGUES

Because of their complexity, slippery slope arguments are often presented in a shortened (or 'compressed') form. We might hear, for example:

> In theory, freedom of speech is a good thing, but allowing any form of extremist religious or political views – whether or not they advocate violence – will eventually lead to more of our teenagers and young adults joining organisations like Oath Keepers or IS.

This is a controversial and emotive topic, and you can imagine this argument against the preaching of extremist beliefs having some support in countries facing anti-government or terrorist threats. Before

assessing it though we would need to hear more from its source to gain a clear picture of what they think would happen to these young people if we continue to tolerate non-violent extremist views. Thus, the skills of constructive dialogue and argument reconstruction are required to fill in the various steps. Only once this effort is made can the argument be properly evaluated.

Many slippery slope arguments do not stand up to scrutiny, but some do, and because they deal in severe negative consequences then we need to be careful about what we dismiss. Notwithstanding the preciousness of our time and our developing ability to read signs of unreliability in sources, we need to be suitably open-minded, persistent in our focus, and inquisitive in the presence of proposed slippery slopes. Although we are unlikely to have direct access to the evidence for the steps in question, we can at least adopt a provisional stance on their plausibility which can then shape our subsequent attitude to the issue.

8.4 SUMMARY

This chapter has highlighted the links between consequences, causes, and generalisations. We need to gauge and evaluate, as best we can, the consequences of different decisions. To help us do this we must avoid mistakes in (1) reasoning about causation, and (2) how we generalise from what is currently known to future events and to what has not been directly investigated. These errors are in part the consequence of psychological frailties – such as a liking for absolutes, or proneness to superstition and fear appeals – that are now quite well understood. Improvements in our critical thinking can be developed, not just from learning about relevant argument forms and fallacies, but from a reflective appreciation of these frailties and by continuing to develop appropriate dispositions and constructive dialogical practices.

EXERCISES

1. Conspiracy theories are an excellent subject matter to apply critical thinking to. One exercise is to generate a set of critical questions designed to assess their plausibility. In conjunction with this it would be useful to (a) read some philosophical analysis of conspiracy theories (such as Cassam, 2019), and (b)

think about them in terms of the cognitive biases and argument forms and fallacies discussed in this book – a remarkable number of which turn out to be relevant.

2. The background to Martin Luther King, Jr.'s *Letter from Birmingham Jail* has been discussed in Chapters 1 and 4, and here I would like to direct you to a section of it that contains many of the argument forms discussed in this chapter.

I won't re-produce it here, but it is easily locatable online. The relevant part starts in the 23rd paragraph (about two-thirds of the way through) with the line 'If this philosophy [of nonviolent direct action] had not emerged …' and continues into the next paragraph up to 'channelled through the creative outlet of nonviolent direct action'.

Attempt to *identify and reconstruct* some of the argument you find here and, using the appropriate critical questions, *assess its strength* as best you can. Taking into consideration King, Jr.'s audiences (white Southern clergy, politicians, and the American public in general), you might also want to evaluate its *rhetorical power*.

FURTHER READING

CAUSAL ARGUMENTS

Deanna Kuhn's book *The Skills of Argument* (1991) is a very interesting investigation into how people formulate causal arguments and associated generalisations. In it she theorises four stages of sophistication in causal reasoning.

Hank Davis' *Caveman Logic* (2009) is primarily an argument for the dangers of heuristic reasoning, but has a particular focus on causal reasoning errors.

GENERALISATIONS

A very readable and insightful discussion of generalisations (including prejudice and stereotyping) can be found in Michael Scriven's excellent book *Reasoning* (1976, pp.196–210).

Within the context of critical thinking books, one of the most comprehensive treatments of generalisations and their relationship to scientific method is Chapter10 of Robert Ennis's book *Critical Thinking* (1996a).

ARGUMENTS FROM CONSEQUENCES AND SLIPPERY SLOPE ARGUMENTS

For a good recent overview of slippery slope arguments see Anneli Jefferson (2014) 'Slippery Slope Arguments'. And for a more advanced history and analysis see Douglas Walton (2015) 'The Basic Slippery Slope Argument,.

NOTES

1 *Fortean Times*, Issue 305, Sept. 2013.
2 Bowes, L. et al. (2015) Risk of depression and self-harm in teenagers identifying with goth subculture: a longitudinal cohort study. Available at: www.thelancet.com/psychiatry, Vol.2.
3 Season 7, Ep.18, July 2020.
4 McGrath, M. (2015) Global Warming Increases Food Shocks Threat [Article]. Available at: www.bbc.co.uk/news/science-environment-33910552, and Bailey, R. et al. (2015) Extreme Weather and Resilience of the Global Food System [Report]. Available at: www.cabdirect.org/globalhealth/abstract/20163135764
5 Skinner, B.F. (1948) 'Superstition' in the pigeon. *Journal of Experimental Psychology*, 38, 168–72.
6 E.g., Brian, K. (1999) Of conspiracy theories. *Journal of Philosophy*, *96*(1), 109–26.
7 See Goldacre, B. (2008) *Bad Science*. (London: Fourth Estate), pp. 97–9 and 165–70.
8 The Will to Believe in *Selected Papers on Philosophy* (New York: Dutton, 1967), p.110.
9 *Talk is Cheap Volume 3* (Audio recording, 2004)
10 Mahoney, M. and Freeman, A. (eds), *Cognition and Psychotherapy* (New York: Plenum, 1985).
11 *Fortean Times*, February 2015, p.39. To avoid this error Quassim Cassam (2019) distinguishes between Conspiracy Theories (with caps) and conspiracy theories. The former are without any serious credibility and their propagation linked to political agendas.
12 Brunstetter, D., & Braun, M. (2011). The implications of drones on the just war tradition. *Ethics & International Affairs, 25*(3), 337–358.
13 IPCC (2022) www.ipcc.ch/report/ar6/wg2/
14 See, e.g., www.irishexaminer.com/sport/soccer/arid-30448950.html
15 www.theguardian.com/us-news/video/2022/jun/24/this-is-not-over-kamala-harris-speaks-out-against-overturning-of-roe-v-wade-video
16 *I am Ozzy* (Sphere, 2009), pp.26–7.
17 See George Marshall (2014) *Don't Even Think About It*. (Bloomsbury).

9

ARGUMENTS FROM ANALOGY

> Argument by analogy is often the most powerful and compelling type of argument we can use. (Michael Scriven, 1976, p.210)
>
> Using an analogy to win an argument is like putting a stethoscope on a cat and claiming that it's a doctor. (Sacha T. Burnstorm, pers. comm.)

An **analogy** is an attempt to illuminate, explain, or make an argument about a certain thing (or situation, event, etc.) by comparing it with something that shares relevant features with that thing (or situation, event, etc.). Analogies are extremely common in communication, sometimes as forms of explanation, but also as forms of argument.

At a critical point in the Covid pandemic in 2021 composer Andrew Lloyd Webber compared refusing the Covid vaccine to drink driving. In both cases he claimed that people know their decision is endangering the lives of others, even though it is not their intention. He was making a moral argument rather than saying that refusing the vaccination should be made illegal, but if the comparison is convincing then the conclusion reached has serious implications: if we agree that drink driving is wrong because it is selfish, then a similar degree of disapproval could be directed at anti-vaxxers.[1]

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A letter to the UK's *Sun* newspaper (29.9.10) uses an analogy to argue against slipping standards in the long-running soap opera *Coronation Street* (or 'Corrie'):

> The unpleasant sight of Kevin and Molly naked in bed before the 9pm watershed shows how Corrie's standards sink lower all the time. Clark Gable and Vivien Leigh sustained over three hours of passion in *Gone with the Wind* without once getting their kit off. Corrie should learn from this.

The argument is that the programme should not need to use explicit sex scenes to facilitate romantic plotlines, and the reason it gives is that *Gone with the Wind* – a prime example of the genre – did not need to.

Metaphors are very similar to analogies, but tend to be briefer comparisons which have a more literary purpose. They illuminate some aspect of the world in a way that seizes the audience's attention and stirs the imagination. As we will see, that analogies can also have this effect is relevant to understanding their persuasive potential, but primarily they should be understood as having an informational rather than poetic function. When used as explanations or arguments the relationship between the items being compared needs to stand up to analytical scrutiny. If not then the explanation will mislead, or the argument will be weak.

STRUCTURE AND CRITICAL QUESTIONS

An argument from analogy is one which claims that because something is true about Y, so it is likely to be true of X, because X, in relevant respects, is comparable to Y.

The most basic way of representing the structure of an argument from analogy is this:

P1: X is comparable to Y.
P2: Z is true of Y.
C: Therefore Z is also true of X.

A more detailed version is this:

P1: Y has features a, b, c, etc.
P2: X is comparable to Y with respect to features a, b, c, etc.

P3: Z is true of Y.
P4: Z is linked with features a, b, c, etc.
C: Therefore Z is also true of X.

Set in the 1970s, *The Last King of Scotland* (Keven MacDonald, 2007) is a film about a young Scottish doctor (Nicholas) who, when volunteering in Uganda, ends up becoming Ide Amin's personal physician. Nicolas initially rejects Amin's offer because he has come to Uganda to help ordinary people, but Amin then argues that by helping the president he will be helping the people by assisting the development of a national health service. Nicholas again, politely, refuses. Amin's second argument is an analogy that can be reconstructed like this:

P1: I had no personal desire to become president, but the people wanted it.
P2: You have no desire to become my physician, but the people will benefit from it.
P3: Through a sense of duty I became president.
P4: Doing one's duty is relevant to cases where taking on an important position, whatever one's personal feelings, is something that will benefit the people.
C: Duty dictates that you should serve as my personal physician.

The whole of this sequence (between approx. 24 and 36 minutes into the film) is worth watching and analysing as an excellent example of persuasive communication, and this particular dialogue serves as an example of an argument from analogy.

Terminology tends to differ slightly between different books and theorists, but for our purposes the issue or entity that the conclusion refers to (that the argument is essentially about) is known as the 'primary case' (in this instance whether Nicholas should become Amin's physician); what it is being compared with is the 'analogue case' (Amin's decision to become president), and the relevant feature of the analogue case that the argument wants to claim is also true of the primary case is the 'target feature' (the decision being based on duty rather than personal preference).[2]

Just how arguments from analogy should be categorised has been the subject of a lot of debate among philosophers and other

academics in recent decades. One important and generally accepted distinction (first identified by Aristotle (1991, Ch.2.20)) is between these two types:

- Real-life (or historical) analogies, where the comparison is with historical events or other accepted truths that the audience is familiar with. These are commonly referred to as **inductive analogies**.
- **Hypothetical analogies**, where the comparison is with an invented situation that draws out, in a clear (and often vivid) way, the target feature(s) of the primary case.

Extended inductive analogies can sometimes form the entire structure of lengthy books and documentaries. For example, the Mark Achbar, Jennifer Abbott, and Joel Bakan documentary *The Corporation* argues that the problem with large, publicly traded companies is that by law they have no option but to behave like psychopaths. The symptoms and consequences of psychopathy are systematically analysed and applied to corporate behaviour, and the conclusion is reached that just as psychopathic behaviour is socially discouraged and legally neutered, so too should the modern form of the corporation. As the title suggests, Andrew Jennings' 2014 book *Omertà! Sepp Blatter's FIFA Organised Crime Family* makes the case that the corruption in football's governing body is best understood in terms of the Mafia, and thus the appropriate alarm, moral disgust, and other responses we have towards organised crime should rightfully also be directed towards Blatter's FIFA.

Allegories are fictional stories with clear symbolic meaning, some drawing comparisons with specific real-world events or situations. Often they are indirectly making an argument, or series of arguments. A famous twentieth-century example is Arthur Miller's play *The Crucible* where the Salem witch trials represent McCarthyism. And a good recent one is the 2021 film *Don't Look Up* in which motivated ignorance about the Earth's imminent collision with a comet stands in for political and media responses to the climate crisis.

The history of philosophy is full of analogies used as arguments and explanations. In one of the most famous contemporary examples, Judith Jarvis Thomson argued that legally or morally denying the right to an abortion in the case of rape is akin to a person being

surgically attached to a famous violinist against their will for nine months because their blood and kidneys are the only thing that can keep him alive. If we agree that this violates the person's rights, so the argument goes, we should also accept the right to an abortion.[3]

Another hypothetical analogy, well known in philosophy and theology, is William Paley's 'watchmaker' argument for intelligent design (published in1800). In it he states that on encountering a watch for the first time, its complexity and evident function (in comparison to a stone) would give us every reason for believing that it has been designed and constructed by an intelligent being for a particular purpose. That being the case, he draws an analogy between what we believe about the origins of the watch and what we should believe are the origins of nature as a whole:

> every indication of contrivance, every manifestation of design, which existed in the watch, exists in the works of nature; with the difference, on the side of nature, of being greater and more, and that in a degree which exceeds all computation. (Paley, [1800] 2009, p.19)

Living things also function mechanically, and in a way that is 'accommodated to their end'. In other words, body parts and so on are ideally designed to fulfil their purpose, just as human-made inventions are. The most reasonable belief, he concludes, is that nature is the product of intelligent design – the work of God.

The critical questions we can apply to arguments from analogy are these:

Q1: Is what is said of Y actually true (or plausible)?
Q2: Are there relevant similarities between X and Y?
Q3: Are there dissimilarities between X and Y that undermine the similarities?
Q4: Can convincing counteranalogies be found (or in the case of hypothetical analogies, be hypothesised?)
Q5: Is the conclusion drawn from the comparison of the appropriate strength?

In his *Dialogues Concerning Natural Religion* (published in 1779, several decades before Paley's book) David Hume employed these questions to good effect against design arguments. We can grant that someone

coming across a watch for the first time (in contrast to a stone) would rightly believe that it is not a random occurrence (Q1). (Note that with hypothetical analogies we can challenge the belief that is assumed in the analogue – so in Thomson's analogy we might want to claim that we do not have the right to disconnect our self from the violinist as she thinks we would – but in real-life analogies the facts of the analogue can be challenged *as well as* our supposed attitude towards those facts.) Arguably there are relevant similarities between the watch and the workings of nature (Q2), but Q3 begins to reveal weaknesses in the argument. Despite their complexity and functionality, living organisms and their component parts are noticeably different from man-made artefacts, and in many respects (irregularities, shapes, textures, and so on) share more with the contrasting stone than with watches and other devices. Also, a simple dissimilarity is that we can observe watches and other machines being designed and built, but have no such empirical evidence for the origins of nature.

Q4 is problematic for design arguments since an alternative analogy for the creation of nature is the creation of living organisms at a result of procreation. A designer is not an observable or necessary feature of the continuation of animal and vegetable species, so why should it be for the world as a whole? In Hume's words,

> The world plainly resembles more an animal or a vegetable, than it does a watch or knitting-loom. Its cause, therefore, it is more probable, resembles the cause of the former. The cause of the former is generation or vegetation. The cause, therefore, of the world, we may infer to be something similar analogous to generation or vegetation. (Hume, [1779] 1990, p.87)

Of course, Hume's argument would have been greatly strengthened had he been writing after Darwin's *Origin of Species* had been published; in the *Dialogues* he can only assert that we have no conclusive evidence either way. Without this evidence, to make a firm assertion on the basis of either the machine or generation analogy is unwarranted (an example of a **circular argument**, see Chapter 10). A further argument of Hume's against the design argument, therefore, is a variation of Q5. Applying this to Paley we can say that he concludes too much from his analogy.

A small piece of advice before ending this section: prior to applying these questions, it is wise to ask ourselves whether the analogy is

intended to serve as an argument, rather than to explain or illuminate the primary case. This is not always easy to discern, and some interpretive work can be required. In her recent book parodying a manual for how corporations (in tobacco, pharmaceuticals, oil, etc.) should go about denying scientific discoveries that threaten their profits, Jennifer Jacquet comes up with a truly insightful analogy. In the book's appendix she includes a letter to her editor explaining her findings, and in it she points out that viewing denial strategies – challenging the problem, challenging the causation, challenging the messenger, and challenging the policy – as a series of tricks does not do justice to what they have been achieving. Instead, she likens the approach to a casino, an environment that can make people feel at ease and forget that they cannot possibly trust the people who are running it to have their interests, or the truth, in mind. This serves as an aid to explaining how corporate scientific denial operates, but it might also be an argument for how to combat it. Just as there are ways to avoid the illusory comfort casinos create, so there are similar ways to avoid the spells cast by corporate PR.[4] If progress seems likely to be gained from interpreting an analogy as an argument it is worth pursuing. At the same time, however, we must be honest about our uncertainties regarding the author's intention, and of course apply the principle of charity (see Chapter 4).

ARGUMENTS FROM ANALOGY: PSYCHOLOGY AND RHETORIC

The success of many analogies is dependent on the audience's familiarity with them; what people know, and perhaps have strong feelings about. The familiar case guides the understanding – provides a way into the issue in question – and so presenting an analogy can be seen as a form of **framing** (see Chapter 1). Analogies thus have the potential to be highly persuasive. In a benign sense they are persuasive precisely because they motivate us, through the familiarity of the analogue or the inventiveness and narrative features of the hypothetical scenario, to engage more fully with the topic. In this respect analogies can be seen as having an educational function, but less benignly they can also be distracting, play to our prejudices, and ultimately lead us to accept conclusions that we should not accept.

The clever persuader will employ analogies and other forms of figurative language that have emotional resonance for the audience in question. When making an argument from analogy our choice of comparison can be partly determined by this consideration. For example, in *An Inconvenient Truth*, Al Gore did not have to choose Hurricane Katrina (and later in the film, 9/11) to make his point about preparedness and responses to global warming, but he knew that these appropriately memorable and moving events would help prompt a US audience (in 2006 at least) to engage with his message. When comedian and Catholic Frank Skinner responds to the challenge that religion is nonsense from his atheist friend (David Baddiel) he chooses football – a game they both love – to make his point. Football is central to many lives, yet seen from an outsider's perspective this is not only unfathomable but also 'promotes violence, idolatry and tribalism'. Skinner's point (not necessarily a very strong one) is that coolly evaluating these commitments misses something vital about how they can make people feel.[5]

Even where figurative language is not directly used as part of an argument, its presence can still influence audiences. Aristotle (1991) and modern research (see Sopory and Dillard, 2002, for a review) provide us with the following criteria for evaluating the persuasive power of analogies and metaphors:

1. *They should be unfamiliar, and yet lead to immediate recognition.*
   Used in non-fiction prose, the appeal of novel metaphors needs to be balanced with their clarity of meaning. They should, in Aristotle's words, 'name things without name, which on being spoken immediately reveal their affinity' (1991, p.220). This is quite an art; effectively knowing what is on the tip of your audience's tongue, and then finding the right words or image to capture it. When Marx said in the *Communist Manifesto*, 'You have nothing to lose but your chains' there was little doubt about what he meant, and the word 'chains' serves to dramatically crystalise the 'affinity' between the conditions of the working classes and slavery.
2. *They should be situated so as to maximise message comprehension*
   It is important to get the positioning as well as the content of metaphors right. Using a *single metaphor* rather than multiple ones and *employing the metaphor early* in the message can help

> to provide a clear frame for engaging with the overall argument. This process is explained by the 'superior organisation' theory which sees metaphors as facilitating our understanding and memorising of the arguments presented by providing a 'structure' for linking them together that is more effective than literal language. In other words, well-situated metaphors allow us to make better overall sense of what we are hearing or reading (Sopory and Dillard, 2002, p.387).

If this potential for enabling audiences to structure the arguments they are hearing is to be actualised, then the metaphor must be carefully selected. As well as being aesthetically pleasing and novel (but recognisable), it should be consistent with the message and rich enough to illuminate as many of the arguments within it as possible.

A number of these criteria, including using a single metaphor, are exemplified by two well-received political speeches from the last decade, the topics of which remain highly relevant. In President Obama's moving and sympathetic address in Newtown, Connecticut, shortly after the Sandy Hook school shooting in December 2012, the only metaphor he used referred to the anguish all parents face when confronted with the impossibility of protecting their children from all eventualities:

> someone once described the joy and anxiety of parenthood as the equivalent of having your heart outside of your body all the time, walking around.

This is a vivid representation of vulnerability; something we care about more than anything is continually exposed to circumstances beyond our control. It would lead to immediate recognition by any parent, and serves to structure the central argument of the speech – how the nation must do more to provide the protection that parents cannot (alluding to, among other things, gun laws).

Ex-UK Prime Minister Gordon Brown's fiery pro-union speech in Glasgow, just prior to the Scottish independence referendum in September 2014, also employs a single metaphor. He referred to the risks of an independent Scotland in terms of an 'economic minefield', and an 'economic trapdoor down which we go and from which we might never escape'. These images chimed with the fear appeal that was central to the ultimately successful 'No' campaign, and which was a central theme of this address. [6]

From these examples we can see that the lone, carefully selected metaphor helps keep messages coherent and memorable. Further use of figurative language would risk creating linguistic clutter that would interfere with this aim. In both speeches, however, the metaphor appears closer to the middle of the speech than the beginning, and in both cases the reason is that unrelated content was (for good reasons) positioned prior to this. In the Obama case the speech naturally begins with condolence rather than arguments, and with Brown other arguments (concerning, for example, national (British) pride) were more appropriate as openers. If a metaphor functions as a joker, it makes sense that Brown would choose to play his on the economic theme.

ARGUMENTS FROM ANALOGY: DISPOSITIONS AND CONSTRUCTIVE DIALOGUES

If there is a disposition with particular significance for arguments from analogy, then it is having a good imagination. Hughes, Lavery, and Doran (2010, p. 213) describe them as 'probably the most creative form of reasoning', and Christopher Tindale asks us to 'note how much this argument scheme requires us both to delve into the context and to use our imaginations' (2007, p.198).

Imagination is important both for formulating appropriate analogies for our own arguments and for formulating counteranalogies when questioning other people's arguments (see Q3). This imaginative aspect makes arguments from analogy unusual. It contributes to their persuasive potential, but it is also part of what makes them difficult (and risky) to generate. In particular, it is hard to conjure convincing analogies in the heat of the moment. Producing counteranalogies is, however, less tricky since we can usually follow the lead of the other arguer's analogy. Someone attempting to justify the Iraq war, for example, might draw an analogy with the successful (but also, technically, illegal) humanitarian intervention in Kosovo in 1999. But once faced with this form of argument it is relatively easy to find counteranalogies in other unsuccessful and less well-motivated wars such as Vietnam (wasteful, futile, a national embarrassment to the US) and the Crusades (self-righteous, militarist and imperialist folly).

As the design argument example demonstrates, arguments from analogy tend not to be particularly strong. Where hypothetical analogies

have creative qualities, though, they are effective for generating discussion and catalysing stronger arguments and deeper understanding. There is a cognitive reason for this, concerning stimulation of the imagination, and a motivational reason as well. Several literary philosophers, such as Søren Kierkegaard, Jean-Paul Sartre, Iris Murdoch, and Martha Nussbaum, have written about the importance of stories (including allegories) for depersonalising topics; their aesthetic distance providing an engaging focus whilst helping to avoid some of the emotional distortion that political and ethical debates can generate and that

> frequently impede our real-life deliberations. Since the story is not ours, we do not find ourselves caught up in the 'vulgar heat' of our personal jealousies or angers or in the sometimes blinding violence of our loves. (Nussbaum, 1990, p.48)

Hypothetical analogies can function in a similar way. Bruce Waller says that Judith Jarvis Thomson's 'famous violinist' analogy (see above), is

> effective because it starts with a case sufficiently different from our everyday experiences that our preconceptions do not distort our view; thus we can think about what principles we hold without the heat and passion and entrenched doctrines that swirl around the question of abortion. (2001, p. 215)

A lot of this section has emphasised the role of familiarity in effective analogies, but here Waller makes a good case for the important function of *unfamiliarity* in many hypothetical analogies. Rather than insight into what an audience knows and has strong feelings about, the imagination that goes into the production of these analogies is an example of philosophers (and other academics) at their most creative.

SUMMARY

Arguments from analogy are commonly employed and vary greatly in their quality. At their worst (and most dangerous) their superficial appeal misleads and contributes to an audience's hasty acceptance of an unwarranted conclusion, but at their best they can encourage us to think hard about an issue and form the beginning of a productive discussion. They are good for holding people's attention, especially when the analogue case is familiar and matters, or is at least interesting. Inductive analogies are based on real events and hypothetical analogies on imagined ones. In both cases a well-made analogy

draws out relevant ('target') features of the primary case that support the conclusion. A strong argument from analogy impresses on us the plausibility that since something is true of the analogue case it will also be true of the primary case. A weak analogy should leave us questioning the relevance of the connection between the two, and searching for counteranalogies that further expose this flaw.

EXERCISES

1. There are quite a few examples of brief and extended analogies in this chapter (such as Covid vaccine refusal being equated to drink driving; the scene from *The Last King of Scotland*; the documentary *The Corporation*; Thomson's 'famous violinist'; the film *Don't Look Up*; and Frank Skinner's religion-football comparison) which have been explained or cited, but not analysed. This you could do by applying the critical questions and the criteria for the persuasiveness of figurative language in the 'Psychology and rhetoric' section. It is worth looking out for your own examples as well – arguments from analogy are used very frequently indeed.
2. As mentioned towards the end of the chapter, generating and countering arguments from analogy is one of the most imaginative aspects of critical thinking. There are various activities you can do around this, and one example is for a contentious topic that interests you (or one agreed on by the class or set by the teacher), devise an argument from analogy in support of your position. To add realism (and perhaps make the task a bit easier), determine in advance the type of person or audience you are trying to convince with your argument.

FURTHER READING

Three sources on arguments from analogy that will help develop your understanding of the subject and of some of the disagreements within it are these:

- Bruce Waller (2013) 'Classifying and Analysing Analogies'.
- Christopher Tindale (2007), Chapter 10.
- Trudy Govier (2013), Chapter 11.

NOTES

1 www.bbc.co.uk/news/av/uk-57146619
2 The choice of terminology is closest to Trudy Govier's (2013), but 'target feature' is Hughes, Lavery, and Doran's phrase (2010), p.215.
3 Thomson, J.J. (1971) A Defence of Abortion, *Philosophy and Public Affairs*, 1 (1), 47–66.
4 *The Play Book* (Allen Lane, 2022), p.172.
5 *On the Road* (Arrow Books, 2009), pp.42–3.
6 Both of these speeches are easily located for viewing online.

10

FURTHER FALLACIES

> Building new carparks is something you're either for or against. For me it's a grey area. (Sacha T. Burnstorm, pers. comm.)

The previous three chapters have been about argument forms, and their associated fallacies, that warrant extended analysis and exploration. The focus of this chapter is a selection of fallacies and rhetorical techniques that could not be located among these analyses, but which are also important to know about. These are **affirming the consequent** (and **denying the antecedent**); **circular arguments**; **false dilemmas**; the **perfectionist fallacy**; and **red herrings** and **equivocations**.

10.1 AFFIRMING THE CONSEQUENT (AND DENYING THE ANTECEDENT)

There is a type of argument – sometimes known by the Latin *modus ponens* – that has this form:

P1: If X, then Y.
P2: X.
C: Therefore Y.

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So, for example:

P1: If a celebrity is responsive to her fans and treats them with respect, then she will remain popular.
P2: Taylor Swift is responsive to her fans and treats them with respect.
C: Therefore Taylor Swift will remain popular.

This is a form of valid deductive argument (see Chapter 5) that includes what is known as a 'conditional statement' or 'conditional premise' – if X is the case, then Y will also be the case.

The logic of this argument is easy to follow, but we are also quite easily led to accept as valid a non-deductively valid version of it that goes like this:

P1: If X, then Y.
P2: Y.
C: Therefore X.

So,

P1: If a celebrity is responsive to her fans and treats them with respect, then she will remain popular.
P2: Taylor Swift will remain popular.
C: Therefore Taylor Swift is responsive to her fans and treats them with respect.

In this version the information provided in P1 and P2 cannot ensure the truth of the conclusion because there will be other reasons for a celebrity remaining popular other than being responsive to their fans and treating them with respect. The first clause in a conditional statement is known as the 'antecedent', and the second clause is the 'consequent'. In the *modus ponens* argument form the second premise should affirm the antecedent, so the fallacious version is known as **affirming the consequent**.

In a radio interview in 2015 Carlo Rovelli, discussing his book about science theories, said (with some slight paraphrasing),

> Science is beautiful ... The theory of relativity is a work of art. This is because, like Shakespeare or the Sistine Chapel, it makes us emotional.[1]

This appears to be an example of affirming the consequent:

P1: If something is a work of art, then it makes us emotional.
P2: The theory of relativity makes us emotional.
C: Therefore the theory of relativity is a work of art.

Many things can make us emotional in the way that Rovelli seems to mean – such as walking in a mountainous landscape, or contemplating the night sky, or watching our team win an important match – but these are not works of art.

A similar argument to *modus ponens* is *modus tollens*, which has this structure:

P1: If X, then Y.
P2: Not Y.
C: Therefore not X.

If X is the case, then Y must also be the case; therefore if Y is not the case then X cannot be the case:

P1: If you like all forms of music, then you must like jazz scat singing.
P2: You don't like jazz scat singing.
C: Therefore you don't like all forms of music.

The fallacious version of *modus tollens* is known as **denying the antecedent**:

P1: If X, then Y.
P2: Not X.
C: Therefore not Y.

Applying the same example:

P1: If you like all forms of music, then you must like jazz scat singing.
P2: You don't like all forms of music.
C: Therefore you don't like jazz scat singing.

As unlikely as it seems, someone not claiming to like all forms of music could still like someone singing improvised impressions of jazz instruments (i.e., scat). A *modus tollens* argument should deny the consequent rather than deny the antecedent.

This fallacy appears to be at work in the quite frequent assertion that because famous environmentalists were invariably brought up close to nature, then that is how we can assure everyone grows up to be environmentally conscious:

P1: If you grew up close to nature, then you are environmentally conscious.
P2: Person Z is not environmentally conscious.
C: Therefore person Z did not grow up close to nature.

This allows room for the possibility of being environmentally conscious even though you experienced an entirely urban upbringing; all it says is that being close to nature is a sufficient condition, not a necessary one. The fallacious version mistakenly necessitates closeness to nature:

P1: If you grew up close to nature, then you are environmentally conscious.
P2: Person Z did not grow up close to nature.
C: Therefore Person Z is not environmentally conscious.

10.2 CIRCULAR ARGUMENTS

A **circular argument** (otherwise known as 'begging the question') is when prior acceptance of the conclusion of an argument is required in order to establish one or more of the premises. An example is expressed in this dialogue:

Jesse: I have psychic powers.
Simone: Really? How do you know?
Jesse: My psychic aunt told me, and only a psychic can tell if you're psychic.
Simone: How do you know your aunt's really a psychic?
Jesse: Well, because I'm psychic of course.

Jesse is trying to argue that he is psychic on the basis of his psychic aunt's insight, but he can only know that his aunt is psychic on the assumption of his own psychic powers. The trouble is his psychic powers can only be established if the aunt is psychic, and so round it goes. In a circular argument no grounds for accepting a premise are offered beyond what is stated in the conclusion of the argument – a conclusion that is, by its nature, reliant upon that very premise for establishing its own truth.

We tend to recognise circular arguments when we encounter them, but articulating them can sometimes be difficult. Setting them out in a formal structure is slightly tricky as well, but Bowell and Kemp (2015) achieve this by joining two separate arguments together like this:

P1: I have psychic powers.
P2: Only a psychic can tell if someone else is psychic, and I know my aunt is psychic.
C1: My aunt is psychic.
P3: My aunt says I have psychic powers, and only a psychic can tell if someone else is psychic.
C2: Therefore I have psychic powers.

Circular arguments are fairly common, and if you get the scent of one it is worth pursuing it even if it takes some trial and error to pin it down. If someone tries to prove God's existence using the Bible, for example, persistence can pay off because it is probably circular:

Simone: How can we rely on the word of the Bible?
Jesse: Because the Bible is the word of God.
Simone: But how do we know God exists?
Jesse: Because it says so in the Bible.

Some independent grounds are needed to prove either the existence of God or the veracity of the Bible, just as an independent justification is needed for the psychic powers of either Jesse or his aunt.

A more subtle version of a circular argument – the sort of thing I see in student essays occasionally – is seen in this example:

> If all of the issues were to be correctly considered, it would be seen that abortion is wrong.

The word 'correctly' signals the circularity. Imagine setting out reasons why abortion is wrong, and then adding a premise to the effect that anyone who understands these reasons correctly must conclude that abortion is wrong. Someone who concludes otherwise cannot have reasoned correctly. The idea of 'correct' here is therefore defined in terms of leading to the conclusion that abortion is wrong, and the conclusion that abortion is wrong is only supported by this 'correct' reasoning.

10.3 FALSE DILEMMA

A **false dilemma** is an argument in which a range of options are presented that either deliberately or accidentally under-represent those that are actually available. It is sometimes known as a **false dichotomy**, the difference being that 'dichotomy' means only two choices are presented, whereas 'dilemma' can mean two or more. Also, however, a dilemma indicates that the alternatives are unsatisfactory; that we would rather not have to choose between them because each has significant drawbacks. Better state healthcare and education provision typically comes at the cost of higher taxes (and vice versa); and as a pretty poor golfer, if I tee-off with a wood instead of an iron I will be sacrificing accuracy for distance (and vice versa). If I am offered tea or coffee, it is not usually a dilemma (aside from the fact that having one means that I cannot, right now, have the other), but we might call it a **false choice** if hot chocolate is also available but not been presented as an option.

The basic argument has this structure:

P: Situation X allows for only these beliefs/courses of action.
C: Therefore your decision must be one of these beliefs/courses of action.

But quite often this forms a sub-conclusion towards a further (possibly implicit) conclusion:

P2: Of the options available, these beliefs/courses of action should be rejected.

C2: Therefore you should choose the remaining belief/course of action.

We need to ask ourselves two critical questions:

Q1: Are the beliefs/options offered genuine alternatives? (For example, are some not real or feasible, or if they are, are they really incompatible with one another?)
Q2. Are the outcomes/options listed really the only ones available?

As Taeda Tomić (2013) points out, taking a critical stance towards arguments that present dilemmas not only allows us to consider further alternatives, but to think creatively in terms of how apparently incompatible options might be synthesised into a previously unconsidered theory or solution.

Notice that setting up a false dilemma is a form of **framing**, of presenting the world in a certain way, sometimes driven by a deliberate agenda. It can be very powerful too; dichotomies play squarely into our tendency to see situations in black and white, especially if strong emotions are involved (see Chapter 2). We hear quite often in the TV talent shows like *The X Factor* how it's 'all or nothing' or 'now or never' for those auditioning, whereas in many cases it doesn't actually come down to a choice between superstardom and working at McDonald's.

In a decidedly less trivial example, an episode (called 'Are you with us?') of the BBC radio series *Fatwa* about the reception of Salman Rushdie's novel *The Satanic Verses*, sees two interviewees from Muslim backgrounds talk about the dichotomous view of their white liberal friends at the time. The interviewees' perspective was that neither the book nor the fatwa was acceptable, but the expectation was that if you thought Rushdie was wrong to write the book, then you also agreed with the fatwa (i.e., that he should die). This simple and unsympathetic 'for or against' – a position which of course has broader historical significances – was a profoundly alienating experience ('shocking', as one of them puts it).[2]

The reverse of the false dilemma is used in argumentation as well; denying that an issue is black and white when in fact it is. In *This*

Changes Everything Naomi Klein argues that we really do have a clear choice between the continuation of unregulated capitalism and catastrophic climate change (a 'battle between capitalism and the planet'). She is critical of the 'fetish of centrism – of reasonableness, seriousness, splitting the difference' [3] in other words, believing that we can have both.

The implication of this, and similar arguments, is that it can be convenient to think that two or more things that we want are not incompatible with one another. Moreover, to complicate the choice by arguing for a false dilemma could delay actions towards radical change. Klein might not be right, but the point stands that many situations do indeed present us with a limited number of incompatible choices. The important thing is to determine precisely what these choices are, but wanting to arrive at this insight too soon makes us susceptible to false dilemmas.

10.4 THE PERFECTIONIST FALLACY

The **perfectionist fallacy** has similarities with the false dilemma. In both cases, lazy, black and white thinking plays a role in making us vulnerable to some quite extraordinarily weak arguments. The perfectionist fallacy, in particular, is one that System 2 will recognise as absurdly poor, but that seems to be such sweet temptation for System 1's 'instinct to absolutise'. The basic structure is:

P: Response X to problem Y will not provide a perfect solution.
C: Therefore response X should be rejected.

If this seems pretty dumb, then that's because, in the vast majority of cases, it is. For example, after mass shootings in the US we usually hear a variation on this argument:

P1: If the US changes its gun control laws then people will still be able get hold of guns.
P2: If people can get hold of guns, then shootings and massacres will be a possibility.
C: Therefore there's no point in the US changing its gun control laws.

Implicit here – the assumption being made – is that:

P3: There's no point in making changes unless those changes will solve the problem completely.

What a strange thing to think, and yet it is remarkable how readily we do think this kind of thing across a range of situations. On the gun law issue, words of wisdom come from rock musician and supporter of guns Johnny Van Zant (of Lynyrd Skynyrd):

> I would like to see more rules on owning guns. People could still get them underground, man. But you gotta start somewhere.[4]

Yes, you do have to start somewhere, and even if some lives are saved by a modest change in the law, surely this is worth it. In a similar fashion I have heard it suggested that there is no point in lowering the speed limit in the UK to 50mph because 'people will still die on the roads'. Yes, BUT NOT AS MANY. There might be some good reasons for not lowering the speed limit, but this is not one of them.

In the closing part of his COP26 speech in 2021, Barrack Obama seemed to be countering perfectionist tendencies when he underlined how any progress made with climate change negotiations will be 'messy', 'every victory will be incomplete', but how 'imperfect compromises' will at least 'move the ball down the field'.[5] In a similar vein, Frans Timmermans (Vice President of the European Commission) compared progress towards emissions agreements to a 'marathon'. In both bases there is not an unhopeful message, but any hope requires us to recognise that a perfect or tidy solution to a global problem like this should not be a realistic expectation.

That life in general is such a thing that perfect solutions are rarely feasible, is something that System 1 seems to struggle with. A motivation-based explanation for this tendency is suggested by moral philosopher Jonathan Glover. In a discussion of how the individual should respond to global problems when the difference their actions will make is so minimal, he says,

> In many of the cases where it is used, the argument from the insignificant difference can be dismissed at once. If I can rescue a single person

> from death or misery, the fact that there are many others I cannot rescue is irrelevant to the moral worth of doing this. Huge problems sometimes produce an irrational paralysis of the imagination. It is so terrible to think of the poverty and starvation that will still exist in the world whatever I do, that it is tempting to despair and do nothing. (Glover, 1986, p.126)

10.5 RED HERRINGS AND EQUIVOCATIONS

If you hear the term **red herring** in relation to someone's argument (or your own for that matter) it means: (1) it's not relevant to the main point being debated, but (2) it has the appearance of being relevant such that it is liable to shift the focus of the debate. As with straw man arguments, this can happen by accident – in the moment the arguer feels that the point is relevant – or it can be a deliberate ploy to divert or obscure proceedings.

In May 2022 the Taliban ordered female TV presenters in Afghanistan to wear face coverings. In one response to presenters' protests that Islam does not require them to dress this way, the Taliban said presenters could wear medical masks instead, just as they had done during Covid. The implication is that their disagreement was based on discomfort and clarity of communication, but this is a red herring, designed to distract from the real issue of the growing erosion of women's basic rights and freedoms.[6]

A common way in which red herrings succeed in diverting the argument away from its proper focus is through **equivocation**. This is a fallacy linked to **ambiguity**, in which an alternative meaning of a word or phrase is deliberately or accidentally employed across premises and conclusions in a way that leads the argument off track. In all cases a very poor argument is the result, but it can be one that stalls the argumentation process because equivocations can be tricky, or at least time-consuming, to unpick.

The exasperating 'all lives matter' response to the Black Lives Matter movement and slogan – especially in the aftermath of George Floyd's murder in 2020 – is an example. Few would disagree that all lives matter, but this neglects the context of this statement, which is quite clearly one of discrimination in which Black lives are not treated as equal. To overlook this might just be a case of ignorance,

but where the equivocation is deliberate it might also be an example of precisely why this organisation exists.

In a lighter example, after a bad run of games in 2013 the then Chelsea manager Jose Mourinho responded to a question in a press conference asking if there was a crisis at the club by saying,

> Crisis at Chelsea? What crisis? Syria is a crisis, we've just suffered two bad results.[7]

By employing the **contrast effect** and the impression of an unexpectedly worldly answer from a football coach, Mourinho, true to form, managed to deflect the question, but it is a clear case of equivocation. The type of crisis the questioner is referring to and the one that Mourinho invokes are radically different. If we are to accept his argument then 'crisis' is a word that could never legitimately be used in the context of sport, but that's not the case; it simply has a different meaning to crises that are fatally serious, urgent, ongoing, large-scale humanitarian situations.

10.6 SUMMARY

This chapter has explained some common fallacies not discussed elsewhere in the book and provided some reasons for why they are important to know about. Lists of fallacies can be very long, and there will never be a definitive set, so a book like this is inevitably selective. If you explore other critical thinking textbooks you could well uncover others that you think have equal or greater relevance to the worlds in which you are responsible for making decisions.

EXERCISES

This is a good place to remind you of the recommendation in the book's Introduction that the best way to practise identifying and evaluating argument forms and fallacies is by analysing detailed examples in which the context is familiar to you.

Aside from this, an exercise I use in my critical thinking classes to enhance students' understanding of these ideas is to provide a list of argument forms and fallacies, and assign each student two or three to research. Dividing the list among the class has various practical and

pedagogical advantages, including the chance for them to individually explore their assigned categories in greater depth, and a more interactive learning experience.

There will be many ways to organise this, but my list consists of as many of the argument forms and fallacies discussed in this book as is practical, along with instructions along the lines of: (1) Describe them in detail, explaining what makes them fallacious or weak; (2) Provide at least two examples, one of which must be of your own invention (and ideally on a topic you care about). Guidance is provided on good sources to consult (mostly critical thinking textbooks available through the library, whether print or electronic versions).

FURTHER READING

Most textbooks on informal logic and critical thinking will discuss the fallacies found in this chapter (as well as those featured in other parts of the book). Some good examples are Bowell and Kemp (2015), Chatfield (2018), Hughes, Lavery, and Doran (2010), Johnson and Blair (2006), LeBlanc (1998), and Sinnott-Armstrong (2018).

NOTES

1 *Today* programme, BBC Radio 4, 28.9.15
2 Fatwa – 6. Are You With Us?, BBC Sounds. Available at: www.bbc.co.uk/sounds/play/m0002g88
3 Klein, N. (2014) *This Changes Everything*. Penguin
4 *Classic Rock*, December 2015, p.22
5 Available at: www.youtube.com/watch?v=D2ScHyXs50Q
6 Available at: www.reuters.com/world/asia-pacific/taliban-say-female-afghan-tv-presenters-must-cover-face-air-2022–05–19/
7 Jefferson, B. (2013) Jose Mourinho: Chelsea losing to Basel and Everton isn't a crisis, Syria is a crisis [Article]. Available at: www.express.co.uk/sport/football/430957/ Jose-Mourinho-Chelsea-losing-to-Basel-and-Everton-isn-t-a-crisis-Syria-is-a-crisis.

CONCLUSION

Interviewer: What makes you unhappy?
John Malkovich: That people are so certain about things that you really can't be certain about. (*Guardian Magazine*, 10.3.18)
What would Davis do? (Sacha T. Burnstorm, pers. comm.)

As set out in the introduction, and as hopefully this book has demonstrated, the aim of critical thinking is to make us better deliberators and decision makers through a frame of mind and a set of knowledge and skills that:

1. Help us to identify, reconstruct and assess the arguments of others.
2. Help us to construct, assess and improve our own arguments.
3. Educate us in the pitfalls associated with reasoning in terms of:
    i. Fallacies and their associated psychological biases;
    ii. Features of unconstructive dialogues; and
    iii. Dispositions that make us prone to fallacious reasoning and unconstructive dialogues.

The goals of assessing the arguments of others and improving our own arguments are closely related. This is partly because a significant

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aspect of putting forward a position is to demonstrate its strength in comparison to rival positions, but it is also because we should assess our own arguments by the same standards we assess the arguments of others. There is an understandable tendency when learning critical thinking to concentrate on reconstructing and evaluating other people's arguments at the expense of our own, and for this reason it is this reflexive application that I would like to emphasise in the book's concluding pages.

In the opening chapters the relevance of critical thinking to self-knowledge is quite apparent, and in this respect a book like this brings us close to the spirit of philosophy as represented by Socrates. Fundamental to the search for truth is to understand the strengths and weaknesses of the very thing that is doing the searching – the human mind. Generalised discussions about cognitive biases and the dispositions that can help us manage them takes us so far, but the examples and chapter exercises provided are also designed to encourage self-reflection. On the one hand this is part of the process of deepening our understanding of these ideas. Through appreciating their relevance to our particular strengths and weaknesses as revealed through our own distinct contexts we can understand all the better their power and prevalence. On the other hand, this reflection is valuable for the individual in and of itself. Self-understanding and the role it plays in improving our lives is also part of the spirit of philosophy.

The chapters on argument reconstruction and argument forms and fallacies are less obviously 'about you' in this sense, but they nevertheless are personal because, as stated, these skills and this knowledge apply equally to our own arguments as they do to the arguments of others. The continued focus on psychology, rhetoric, dispositions, and dialogues may help to remind us of this, as should those exercises which are clearly reflexive in nature.

In this spirit I will make some final points about how the skills and knowledge of argumentation can act as a catalyst for self-reflection. Specifically, I will list some important ways in which you can apply this learning to academic, professional, civic, and everyday deliberation and decision-making.

1. When constructing arguments, the guidelines for argument reconstruction and evaluation can be adapted so that we ask

ourselves questions like: What is my conclusion? What are my reasons for believing it? Are these acceptable, relevant, and sufficient?

2. Be careful to make your language as clear and precise as possible; avoid ambiguity, vagueness, and equivocation.
3. Be watchful of the tendency to allow absolutist premises and conclusions to appear in your arguments where they are not appropriate. Most of the time they will not be. In other words, *commit with care.* Lessons can be learned in this respect from the section on generalisations in Chapter 8, but also from the discussion of false dilemmas and the perfectionist fallacy in Chapter 10.
4. If you are going to use authorities to support your conclusions, apply the critical questions and make sure you are using them for the right reasons. In the end you must take responsibility for the positions you argue for.
5. Before evaluating other people's arguments, make sure you understand them. The disposition of open-mindedness and the technique of argument reconstruction (along with the principle of charity) are not peripheral but central to critical thinking. In the opening chapters an important distinction is made between critical thinking as a more detached evaluation, and critical thinking as the spontaneous asking of questions that is part of being absorbed in the ideas that one is reading or hearing (what Dewey calls 'wholeheartedness'). Since the confirmation bias is such a deep-seated tendency, we need to make a sustained effort towards being *better listeners.*
6. Ask questions that help to ensure open-mindedness, such as 'Is there anything important that I'm missing here?' and 'Have I understood with sufficient depth the point of view of the people I am arguing against (or supporting)?' Get to know your biases so that you are better able to prevent them from undermining your objectivity in argumentation. Be your own devil's advocate.
7. Be on guard against overconfidence in the strength of your arguments. Because of our self-serving bias we are inclined to think that we are less susceptible than other people to the various biases discussed in Chapter 1 (and throughout the book).

But we're not. Whatever our self-serving bias tells us, we too are prone to the self-serving bias.

8. Become acquainted with the ways in which emotions can hinder (and help) argumentation. And notice the kinds of arguments that are especially emotive, such as ad hominems, *ad baculums*, and slippery slopes.
9. Consider the communication needs and limitations of your audience. Make judicious use of enthymemes, take care with your vocabulary, and avoid alienating others through smartarsery. Where permitted by the subject matter, choose authorities and analogies that will be recognisable and appealing to your audience.
10. If we listen carefully to the views of others, we might find that we agree on more than we think we do; that disagreements are caused by misunderstandings, or are superficial. To get there we need to be willing to ask questions, and not with a view to tripping people up. Thinking critically about beliefs and courses of action means that our evaluations can be positive as well as negative. To be oriented to the negative is a bias, and at its worst it can make us 'argumentative'. Don't be argumentative, be a critical thinker.

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GLOSSARY

***ad baculum* argument (appeal to force)** An argument that involves a threat, such as: Accept X, or I will ensure that negative consequence Y will occur.

ad hominem argument An argument that attacks the arguer rather than their argument. A negative features of the arguer – such as their character ('**direct**' or '**abusive**' ad hominem), behaviour that is inconsistent with what they are advocating ('***tu quoque***'), a biased perspective ('**circumstantial**' ad hominem), or some association with people or institutions of questionable character, etc. ('**guilt by association**') – is given as a reason for us to reject their argument (no matter how strong that argument otherwise is).

***ad populum* argument** An argument that claims that, because the majority of people hold a certain belief or behave in a certain way, we should also hold that belief or behave in that way.

affect heuristic Basing a judgement or decision on how we feel about a particular person, situation, etc., rather than on a more reasoned assessment.

affirming the consequent A fallacious version of a valid deductive argument known as *modus ponens*.

ambiguity and vagueness An ambiguous sentence is one that has two or more possible meanings. A vague sentence is one that is imprecise.

analogy An attempt to illuminate, explain, or make an argument about a certain thing (or situation, event) by comparing it with something that shares relevant features with that thing (or situation, event).

anchoring This is the biasing effect of being exposed to prior relevant information when making a judgement.

appeal to emotion A form of argument in which a particular emotion (such as fear, compassion, or guilt) is instrumental in establishing the conclusion.

argument A claim we make that we want others to accept as true, combined with reasons supporting this claim. The claim is known as the **conclusion**, and the reasons are called **premises**.

argument forms Commonly used types of argument (such as **arguments from analogy**, **ad hominem arguments**, **causal arguments**, **arguments from consequences**, and so on) that share a general structure and are often associated with certain types of fallacy. They are sometimes known as 'argument schemes'.

argument from analogy An argument in which a situation (X) is compared with a supposedly similar situation (Y). In the case of Y we know, or would believe, that Z is the case, and because of Y's similarity to X, it is concluded that Z is also true (or likely to be true) of X.

argument from authority An argument in which we are encouraged to accept the **conclusion** on the basis that a relevant authority (such as an expert) endorses that position.

argument from consequences An argument of the form: If X happens, then consequence Y will occur. (The consequence can be positive or negative.)

argument reconstruction The practice of extracting the essence of an argument from the everyday language in which it is expressed or implied, and formulating it in terms of appropriately ordered **premises** and **conclusions**.

argumentation The exchange of arguments in dialogues.

ARS criteria The assessment of arguments in terms of the *acceptability* of their premises; the *relevance* of their premises to the conclusion; and whether the premises are *sufficient* for establishing the conclusion. See also **critical questions**.

assumption In the context of an **argument**, an assumption is a belief that has relevance to the argument, but which has not been defended.

availability heuristic The quick rule by which we judge the likelihood of an occurrence based on how readily it comes to mind.

base rate neglect (or sometimes 'background' rate neglect) A fallacy referring to situations in which, when making a judgement about a particular person or event, we overlook relevant background information.

burden of proof If a belief is taken to be generally established, the norm among a group of people, or an agreed default position, then this tends not to be a position that requires defending if challenged. Instead, the burden of proof falls to the challenger.

causal arguments Arguments that claim that correlated events (X & Y) have a particular causal relationship (such as X causes Y).

causal fallacies A range of arguments in which a mistaken claim is made about a causal relationship; such as overlooking a shared cause, misunderstanding the direction of cause, or overlooking multiple causes.

cherry picking fallacy Information or examples that conform to the arguer's hypothesis or that present their position in a particularly flattering light are presented as evidence, whilst non-conforming or unflattering data is ignored or suppressed.

circular argument (begging the question) An argument in which we must accept the **conclusion** in order to accept one or more of the **premises**. This is to argue 'in a circle' because, of course, the conclusion can only be established once the truth of the premise(s) is established.

circumstantial ad hominem argument See **ad hominem argument**.

coercive power The social influence resulting from a person's ability to punish the actions of others.

cognitive dissonance The discomfort experienced as a result of an inconsistency between one's beliefs, or between one's beliefs and one's behaviour. See also **commitment and consistency**.

commitment and consistency A heuristic based on the need for beliefs and behaviours to be consistent with prior commitments.

conclusion See **argument**.

confirmation bias The largely automatic tendency to seek out, attend to, or remember information that confirms existing beliefs at the expense of information which disconfirms them.

constructive dialogue A dialogue is a discussion between two or more people, and dialogues that aim to establish truth, solve a problem, or resolve a dispute can be carried out in ways that are constructive or unconstructive. A constructive dialogue is guided by a set of (often implicitly held) rules that help ensure the dominating presence of critical thinking.

contrast effect The effect that nearby comparators with contrasting qualities have on our perception and interpretation of information. For example, if you are trying to impress someone with your singer-songwriter abilities, don't do it after they've just been listening to Bob Dylan.

critical questions The questions that are important to ask in order to establish the strength of an argument.

critical thinking disposition See **disposition**.

deductive argument An argument which attempts to provide a line of reasoning in which the conclusion follows logically (or necessarily) from the premises, meaning that if the premises are true, the conclusion must also be true. A successful deductive argument is known as a 'valid deductive argument'.

defeasible generalisation A type of **generalisation** that attempts to apply a generally accepted belief to a particular instance in the context of a **dialogue**. They are regarded as provisional and form premises in **plausible arguments**.

dialogue See **constructive dialogue**.

direct ad hominem argument See **ad hominem argument**.

direction of cause Where two events appear to occur simultaneously there is a danger of mistaking the direction of cause; in other words, determining which event is the cause and which event is the effect.

disposition A tendency in a person that inclines them to think, feel, and act in a certain way (similar to an attitude, character trait, or virtue). A **critical thinking disposition** is one that inclines a person to be a good critical thinker.

dual process theories Psychological theories that identify two distinct modes of processing information, typically one that is automatic and fast, and one that is deliberative and slow. See also **System 1/System 2 thinking** and **heuristic**.

ego-defences Ways in which we distort reality in order to keep painful truths away from full consciousness. See also **rationalisation**.

enthymeme An argument with a missing premise or premises, usually for the sake of brevity, with the arguer confident that the audience is aware of what has been omitted.

equivocation This is a fallacy linked to ambiguity, where an alternative meaning of a word or phrase is deliberately or accidentally employed across premises and conclusions in a way that leads the argument off track. See also **red herring**.

ethotic power (ethotic authority) The social influence of someone who is regarded as a broadly 'good' or 'virtuous' person.

experiential system See **System 1 and System 2 thinking**.

expert power (expert authority) The social influence held by a person by virtue of their expertise (or perceived expertise) in a certain area.

fallacy Fallacies are weak **arguments** of certain types that are used frequently and are liable to be convincing to those not thinking critically.

false dilemma/false dichotomy/false choice A set of fallacies in which the options available in a particular situation have been misleadingly represented.

framing In communication, framing refers to a way of looking at things; of putting an 'angle' or 'spin' on a particular issue. It involves emphasising some aspects of a concept, policy proposal, product, and so on, at the expense of others.

generalisation (absolute and non-absolute) Absolute (also known as 'universal', 'strict', or 'hard') generalisations are those that claim that all instances of a certain category of thing have a certain quality, and non-absolute (also known as

'non-universal', 'inductive', or 'soft') generalisations are those that claim that only 'most' or 'the majority' of instances have this quality.

groupthink A set of processes of social influence (such as collective overconfidence and **pluralistic ignorance**) that cause a group of otherwise rational and intelligent people to make very poor decisions.

guilt by association See **ad hominem argument**.

halo effect Our pronounced tendency to generalise known positive features of a person to other, unknown, aspects of them. The opposite of this is the **horn effect**; illegitimately generalising negative characteristics.

hasty generalisation Where a general truth is assumed on the basis of insufficient evidence. A **sweeping generalisation** is one in which a generalised claim is accepted as true, but where relevant exceptions are overlooked.

heuristic: A mental tool for quick decision-making; a rule of thumb that is applied to certain types of situation that, although lacking precision, makes better than chance judgements. (See also **System 1 and System 2 thinking**.)

horn effect See **halo effect**.

inductive argument In contrast to a **deductive argument**, the conclusion of an inductive argument does not necessarily follow from the premises, so it is possible for the premises to be true and the conclusion false.

informal logic The study of arguments and reasoning as employed in real-life contexts, and often viewed as synonymous with critical thinking.

information power A type of social influence based on the information a person has access to (e.g., as a result of their job, or people they know). A sub-category of this is **witness testimony** – the knowledge resulting from first-hand experience of an unusual event.

legitimate power Social influence based on the position someone holds, or moral and legal principles their decisions and actions uphold.

metacognition This can sometimes simply mean self-awareness, but a more specific usage refers to our awareness of the mental

processes (e.g., thoughts and emotions) we are currently experiencing with a view to regulating them.

mistaking cause for correlation Otherwise known as the 'Sod's law fallacy', in which a person overlooks a causal relationship between two events and instead declares them to be a coincidence. Where the effect is negative it might be interpreted as the kind of bad luck that is typical of certain circumstances, hence being 'Sod's law'.

motivated reasoning Biased reasoning that serves to create and preserve beliefs conforming to how we want the world to be rather than how it actually is.

narrative fallacy This can be understood as a psychological basis of the **oversimplification of causes**, and refers to our attraction to, and confidence in, coherent but simple explanations at the expense of an appreciation of complex, unknown, or random factors.

necessary and sufficient conditions A necessary condition is one that must be fulfilled for something to be the case (belong to a particular category, cause something to happen, etc.); and a sufficient condition (or set of conditions) is one that is enough to make something the case. A sufficient condition can also be necessary, but it doesn't have to be.

need for cognitive closure A measure of the extent of a person's desire for clear-cut and quickly reached answers to questions and problems.

overlooking shared cause The fallacy of looking for a causal relationship between correlated events instead of considering the possibility that the correlation is the product of a shared cause.

oversimplification of causes The fallacy of assuming a more straightforward causal explanation for a phenomenon than is actually warranted. In many cases multiple causal factors need to be accounted for. See also **narrative fallacy**.

perfectionist fallacy The claim that unless a perfect solution to a problem (such as gun crime or death on the roads) can be found it is not worth intervening (through, for example, new policies on gun control or reducing speed limits).

placebo effect Beneficial medical outcomes resulting from a patient's belief that the treatment they are receiving will improve

their health, rather than from any direct physical effects of the treatment itself.

plausible argument A style of argument employed in deliberations and other dialogues in which generally accepted assumptions act as the basis for reaching conclusions. They have practical advantages, but are recognised as provisional in nature. See also **burden of proof**, and **defeasible generalisation**.

pluralistic ignorance A socially based form of ignorance in which indecision or inaction results from the mutual misinterpretation of uncertainty as calmness or confidence.

position to know argument An argument based on **information power** (but excluding **witness testimony**).

premise See **argument**.

premise and conclusion indicators When identifying and reconstructing arguments, certain words and phrases can help to indicate the presence of premises (e.g., 'the reasons for this are') and conclusions (e.g., 'therefore').

principle of charity When reconstructing arguments, the principle of charity is the best reasonable interpretation of ambiguous, vague, or otherwise unclear sentences or arguments.

proposition (statement) A sentence that (at least in theory) can be adjudged to be true or false. These are contrasted with, for example, sentences that are questions or directives (requests, orders). All premises and conclusions in an argument must be propositions.

psychology of persuasion The study of the psychological principles underlying persuasive communication.

rational system See **System 1/2 thinking**.

rationalisation A type of **ego-defence** in which we unconsciously provide a false reason for why something happened because the real reason (which the rationalisation masks) causes us psychological pain or discomfort

reciprocation A heuristic linked to the norm of equitable exchange of favours, goods, and so on.

red herring An irrelevant argument with the potential to divert other arguers away from the issue being discussed because of its apparent relevance and often emotive content. See also **equivocation**.

referent power The form of social influence held by a person or a group that we identify with.

regression to the mean A phenomenon whereby outstandingly good or poor results or performances are typically followed by more average ones. Fallacious thinking can result from this if we base beliefs and decisions on a single extreme outcome.

representativeness heuristic A simple rule whereby quick answers to questions such as 'what's the probability of individual X belonging to group Y' or 'what's the probability of event P being the cause of event Q' are provided by referring to what a typical member of group Y, or a typical cause of Q is like.

reward power The social influence of someone who is able to reward the actions of others (through gifts, treats, praise, bonuses, etc.).

rhetoric The art of persuasive communication.

self-serving bias: An automatic and systematic tendency to distort features of ourselves, others, and the world in a way that better satisfies our needs for self-esteem, a coherent and predictable world, etc.

shared causes: See **overlooking shared cause**.

slippery slope arguments Arguments in which it is claimed that an initial, relatively inconsequential or benign, consequence will lead to a series of further consequences that (1) are largely out of our control, and (2) will end in a disastrous final consequence.

social proof A **heuristic** in which the behaviour of other people is used as a guide to what to believe or how to act.

sound argument A **valid deductive argument** that also has true premises.

straw man argument An **argument** in which the position of an opponent is misrepresented in such a way that it makes it easier to argue against.

sub-conclusions Conclusions reached on the way to an overall **conclusion** in a larger argument. The conclusions of component **arguments** function as further **premises** in the larger argument.

sweeping generalisation See **hasty generalisation**.

system 1 and System 2 thinking Tversky and Kahneman's System 1 is the 'fast thinking' that is reliant on heuristics. System

2 is the sort of 'slow thinking' that we associate with focussed attention, problem-solving, and critical thinking. Epstein's experiential and rational systems are similar, but the experiential system is regarded as feeling-led and is part of a more wide-ranging theory of human motivation and personality.

System 1 candy A term I am using to characterise certain features of arguments or other persuasive messages that encourage System 1 (heuristics-based) decision-making in situations where System 2 ought to be employed.

tu quoque See **ad hominem argument**.

vagueness See **ambiguity and vagueness**.

valid deductive argument See **deductive argument**.

witness testimony See **information power**.

REFERENCES

Aberdein, A. (2020) Eudaimonistic Argumentation. In *From Argument Schemes to Argumentative Relations in the Wild* (pp.97–106). Springer, Cham.

Aikin, S. and Clanton, J. (2010) Developing Group-Deliberative Virtues. *Journal of Applied Philosophy*, 27(4), 409–24.

Aikin, S. and Casey, J. (2011) Straw Men, Weak Men and Hollow Men. *Argumentation*, 25, 87–105.

Aikin, S. and Casey, J. (2016). Straw Men, Iron Men, and Argumentative Virtue. *Topoi*, 35, 431–40.

Aristotle (1991) *The Art of Rhetoric*. Penguin.

Baghramian, M. and Croce, M. (2021). Experts, public policy, and the question of trust. In *The Routledge Handbook of Political Epistemology* (pp.446–57). Routledge.

Battaly, H. (2010) Attacking Character: Ad Hominem Argument and Virtue Epistemology. *Informal Logic*, 30(4), 361–90.

Barnett, R. (1997) *Higher Education: A Critical Business*. Open University Press.

Baron, R. (2005) So Right It's Wrong: Groupthink and the Ubiquitous Nature of Polarized Group Decision Making. *Advances in Experimental Social Psychology*, 37, 219–53.

Berrill, D., ed. (1996) *Perspectives on Written Argument*. Hampton Press.

Blass, T. (2000) *Obedience to Authority: Current Perspectives on the Milgram Paradigm*. Erlbaum Assoc.

Bohm, D. (2004) *On Dialogue*. Routledge.

Bowell, T. and Kemp, G. (2015) *Critical Thinking: A Concise Guide* (4th Ed.) Routledge.

Brady, M. (2013) *Emotional Insight*. Oxford University Press.
Brinton, A. (1986) Ethotic Argument. *History of Philosophy Quarterly*, 3(3), 245–58.
Brown, R. (1986) *Social Psychology*. Free Press.
Burns, J.M. (1978) *Leadership*. Harper and Row.
Cassam, Q. (2019) *Conspiracy Theories*. Polity Press.
Chatfield, T. (2018) *Critical Thinking*. Sage.
Cialdini, R. (2007) *Influence: The Psychology of Persuasion*. Collins.
Cialdini, R. (2017) *Pre-Suasion*. Random House.
Cohen, D. (1995) Argument is War … and War is Hell: Philosophy, Education, and Metaphors for Argumentation. *Informal Logic*, 17(2), 177–88.
Cohen, D. and Miller, G. (2016) What Virtue Argumentation Theory Misses: The Case of Compathetic Argumentation. *Topoi*, 35(2), 451–60.
Cooper, H. (1979) Pygmalion Grows Up: A Model for Teacher Expectation, Communication and Performance Influence. *Review of Educational Research*, 49(3), 389–410.
Csikszentmihalyi, M. (2002) *Flow*. Rider.
Damasio, A. (2000) *The Feeling of What Happens: Body, Emotion and the Making of Consciousness*. Vintage.
Davies, M. (2015) A model of critical thinking in higher education. In *Higher Education: Handbook of Theory and Research* (pp.41–92). Springer.
Davies, M. and Barnett, R., eds. (2015) *The Palgrave Handbook of Critical Thinking in Higher Education*. Springer.
Davis, H. (2009) *Caveman Logic.* Prometheus Books.
Descartes, R. (1968) *Discourse on Method and the Meditations*. Penguin.
DeSteno, D., Petty, R.E., Rucker, D.D., Wegener, D.T., and Braverman, J. (2004). Discrete Emotions and Persuasion: The Role of Emotion-Induced Expectancies. *Journal of personality and social psychology*, 86(1), 43–56.
Dewey, J. (1910) *How we think*. D.C. Heath & Co.
Eemeren, F. van, and Grootendorst, R. (2004). *A Systematic Theory of Argumentation: The Pragma-Dialectical Approach*. Cambridge University Press.
Ennis, R. (1996a) *Critical Thinking*. Prentice Hall.
Ennis, R. (1996b) Critical Thinking Dispositions: Their Nature and Assessibility. *Informal Logic*, 18(2&3), 165–82.
Epstein, S. (2014) *Cognitive-Experiential Theory*. Oxford University Press.
Evans, J.S.B. and Stanovich, K.E. (2013). Dual-process theories of higher cognition: Advancing the debate. *Perspectives on psychological science*, 8(3), 223–41.
Facione, P. (2006) *Critical thinking: What it is and Why it Counts*. Measured Reasons LLC.
Festinger, L. and Carlsmith, J. (1959) Cognitive Consequences of Forced Compliance. *Journal of Abnormal and Social Psychology,* 58, 203–10.
Fisher, R. and Ury, W. (1991) *Getting to Yes: Negotiating an Agreement Without Giving In*. Random House.

Fiske, S. (2005) What's in a Category? In A. Miller (ed.) *The Social Psychology of Good and Evil*. Guildford Press.
Flew, A. (1985) *Thinking About Thinking*. Flamingo.
French, J. and Raven, B. (1959) The Bases of Social Power. In D. Cartwright (ed.) *Studies in Social Power*. Institute for Social Research.
Furnham, A. and Boo, H.C. (2011). A literature Review of the Anchoring Effect. *The Journal of Socio-Economics*, 40(1), 35–42.
Gilbert, M. (1994) Feminism, Argumentation and Coalescence. *Informal Logic*, 16(2) 95–113.
Gilbert, M. (1997) *Coalescent Argumentation*. Erlbaum.
Glover, J. (1986) It makes No Difference Whether or Not I Do It. In P. Singer (ed.) *Applied Ethics*. Oxford University Press.
Goodwin, J. (2011) Accounting for the Appeal to the Authority of Experts. *Argumentation*, 25, 285–96.
Govier, T. (2018) *Problems in Argument Analysis and Evaluation*. Windsor Studies in Argumentation.
Govier, T. (2013) *A Practical Guide to Argument* (7th Ed.). Wadsworth.
Halpern, D. (2003) *Thought & Knowledge* (4th Ed.). Lawrence Erlbaum.
Halpern, D. (2014) *Thought & Knowledge* (5th Ed.). Psychology Press.
Hamblin, C. (1970) *Fallacies*. Methuen.
Hargie, O. (2017) *Skilled Interpersonal Communication* (6th Ed.). Routledge.
Hughes, W., Lavery, J., and Doran, K. (2010) *Critical Thinking* (6th Ed.). Broadview Press.
Hume, D. ([1748] 2008) *An Enquiry Concerning Human Understanding*. Oxford University Press.
Hume, D. ([1779] 1990) *Dialogues Concerning Natural Religion*. Penguin.
Janis, I. (1982) *Groupthink* (2nd Ed.). Houghton Mifflin Co.
Jefferson, A. (2014) Slippery Slope Arguments. *Philosophy Compass*, 9/10, 67–80.
Johnson, R. and Blair, A. (2006) *Logical Self Defense*. IDEA.
Kahneman, D. (2012) *Thinking Fast and Slow*. Penguin.
Kant, I. ([1781] 1929) *Critique of Pure Reason*, trans. N. Kemp. Macmillan.
Kant, I. ([1784] 1963) What is Enlightenment? In L. White Beck (ed. and trans.) *On History*. Macmillan.
Keltner, D., Oatley, K., and Jenkins, J. (2013) *Understanding Emotions* (3rd Ed.). Wiley Global Education.
Kierkegaard, S. ([1846] 1979) *Two Ages*, ed. and trans. H.V. Hong and E.H. Hong. Princeton University Press.
Kuhn, D. (1991) *The Skills of Argument*. Cambridge University Press.
Larrick, R. (2004) Debiasing. In D.J. Koehler and N. Harvey (eds.) *Blackwell Handbook of Judgment and Decision Making*. Blackwell.
Lazarus, R. (1991) *Emotion and Adaptation*. Oxford University Press.
LeBlanc, J. (1998) *Thinking Clearly*. Norton.

Levy, N. (2019) Due deference to denialism: Explaining ordinary people's rejection of established scientific findings. *Synthese*, 196(1), pp.313–27.

Lunsford, A. and Ruszkiewicz, J. (2010) *Everything's an Argument* (5th Ed.) Bedford/St.Martins.

Makan, J.M. and Marty, D.L. (2001) *Cooperative Argumentation: A Model for Deliberative Community*. Waveland Press.

McElroy, T. and Dowd, K. (2007). Susceptibility to Anchoring Effects: How Openness-to-Experience Influences Responses to Anchoring Cues. *Judgment and Decision Making*, 2(1), 48–53.

McGarvey, D. (2017) *Poverty Safari: Understanding the Anger of Britain's Underclass*. Luath.

Melling, D. (1987) *Understanding Plato*. Oxford University Press.

Milgram, S. ([1974] 2005) *Obedience to Authority*. Pinter and Martin.

Mill, J.S. (1962) *Utilitarianism*, *On Liberty, Essay on Bentham*. Fontana.

Modgil, S., Singh, R.K., Gupta, S., and Dennehy, D. (2021) A confirmation bias view on social media induced polarisation during Covid-19. *Information Systems Frontiers*, 1–25.

Morrow, D. and Weston, A. (2011) *A Workbook for Arguments*. Hackett.

Narveson, J. (1993) Morality and Violence. In T. Regan (ed.) *Matters of life and death* (3rd Ed). McGraw-Hill.

Neenan, M. and Dryden, W. (2020) *Cognitive Behavioural Coaching* (3rd Ed.). Routledge.

Newman, J.H. ([1852] 1982) *The Idea of a University*. University of Notre Dame Press.

Nickerson, R.S. (1998) Confirmation bias: A ubiquitous phenomenon in many guises. *Review of general psychology*, 2(2), 175–220.

Nussbaum, M. (1990) *Love's Knowledge*. Cambridge University Press.

Nye, A. (1990) *Words of Power: A Feminist Reading of the History of Logic*. New York: Routledge.

Oatley, K., Keltner, D and Jenkins, J. (2006) *Understanding Emotions* (2nd Ed.). Blackwell.

Osman, M. (2004) An Evaluation of Dual-Process Theories of Reasoning. *Psychonomic Bulletin and Review*, 11(6), 988–1010.

Osman, M. (2013). A case study: Dual-process theories of higher cognition—Commentary on Evans & Stanovich (2013). *Perspectives on Psychological Science*, 8(3), 248–52.

Paley, W. ([1800] 2009) *Natural Theology*. Cambridge University Press

Paul, R. (1984a) Critical thinking: Fundamental to education for a free society, *Educational Leadership*, Sept., 4–14.

Paul, R. (1984b) Teaching Critical Thinking in the Strong Sense: A Focus on Self-Deception, World Views, and a dialectical Mode of Analysis. *Informal Logic*, 4(2), 2–7.

Paul, R. (1995) *Critical Thinking*. Foundation for Critical Thinking

Perelman, C. and Olbrechts-Tyteca, L. (1969) *The New Rhetoric: A Treatise on Argumentation*. University of Notre Dame Press.

Perkins, D., Jay, E., and Tishman, S. (1993) Beyond Abilities: A Dispositional Theory of Thinking. *Merrill-Palmer Quarterly*, 39(1), 1–21

Petty, R. and Cacioppo, J. (1996) *Attitudes and Persuasion: Classic and Contemporary Approaches*. Westview.

Pinker, S. (2021) *Rationality*. Allen Lane.

Pithers, R.T. and Soden, R. (2000) Critical Thinking in Education: A Review. *Educational Research,* 42(3), 237–49.

Plato (1993) *The Last Days of Socrates*, trans. H. Tarrant and H. Tredennick. Penguin.

Plato (2004) *Gorgias*, trans. C. Emlyn-Jones and W. Hamilton. Penguin.

Pronin, E., Lin, D., and Ross, L. (2002) The Bias Blind Spot: Perceptions of Bias in Self Versus Others. *Personality and Social Psychology Bulletin*, 28(3), 369–81.

Raven, B. (1965) Social Influence and Power. In I.D. Steiner and M. Fishbein (eds.) *Current Studies in Social Psychology*. Holt, Rinehart & Winston.

Rosenthal, R. and Jacobson, L. ([1968] 2003) *Pygmalion in the Classroom*. Carmarthen, UK: Crown House Publishing.

Schultz, P., Nolan, J., Cialdini, R., Goldstein, N., and Griskevicius, V. (2007) Constructive, Destructive, and Reconstructive Power of Social Norms. *Psychological Science*, 18(5), 429–34.

Scriven, M. (1976) *Reasoning*. McGraw-Hill.

Seech, Z. (1993) *Open Minds and Everyday Reasoning*. Wadsworth.

Siegel, H. (1988) *Educating Reason*. Routledge.

Sinnott-Armstrong, W. (2018) *Think Again: How to Reason and Argue*. Pelican Books.

Slovic, P. (2002) *The Perception of Risk*. Routledge (Earthscan).

Slovic, P., Finucane, M.L., Peters, E., and MacGregor, D.G. (2007) The affect heuristic. *European journal of operational research*, 177(3), 1333–52.

Smith, E., Mackie, D. and Claypool, H. (2014) *Social Psychology* (4th Ed). Psychology Press.

Solomon, R. (2003) Emotions and Choice. In R. Solomon (ed.) *What is an Emotion?* (2nd Ed.). Oxford University Press.

Sopory, P. and Dillard, J.P. (2002) The Persuasive Effects of Metaphor: A Meta-Analysis. *Human Communication Research*, 28(3), 382–419.

Tajfel, H. and Turner, J. (1986) The Social Identity Theory of Intergroup Behaviour. In S. Worchel and W.G. Austin (eds.) *Psychology of Intergroup Relations* (pp.7–24). Nelson-Hall.

Taleb, N. (2007) *The Black Swan*. Penguin.

Tannen, D. (1992) *That's Not What I Meant!* Virago.

Tannen, D. (1998) *The Argument Culture*. Ballantine.

Taylor, S.E. and Brown, J.D. (1988) Illusion and Well-Being: A Social Psychological Perspective on Mental Health. *Psychological bulletin*, 103(2), 193–210.
Tiberius, V. (2008) *The Reflective Life*. Oxford University Press.
Tindale, C. (2007) *Fallacies and Argument Appraisal*. Cambridge University Press.
Tomić, T. (2013) False Dilemma: A Systematic Exposition. *Argumentation*, 27(4), 347–68.
Toulmin, S. (1958) *The Uses of Argument*. Cambridge University Press.
Tversky, A., and Kahneman, D. (1974) Judgment under Uncertainty: Heuristics and Biases. *Science*, 185(4157), 1124–31.
Tversky, A. and Kahneman, D. (1983) Extensional Versus Intuitive Reasoning: the Conjunction Fallacy in Probability Judgment. *Psychological Review*, 90(4), 293–315.
Waller, B.N. (2001) Classifying and Analysing Analogies. *Informal Logic*, *21*(3), 199–218.
Walton, D. (1989) *Informal Logic*. Cambridge University Press.
Walton, D. (1992) *The Place of Emotion in Argument*. Penn State University Press.
Walton, D. (1995) *A Pragmatic Theory of Fallacy*. University of Alabama Press.
Walton, D. (2001) Abductive, Presumptive and Plausible Arguments, *Informal Logic*, 21(2), 141–69.
Walton, D. (2006) *Fundamentals of Critical Argumentation*. Cambridge University Press.
Walton, D. (2009) *Ad Hominem Arguments*. University of Alabama Press.
Walton, D. (2015) The Basic Slippery Slope Argument, *Informal Logic*, 35(3), 273–311.
Walton, D., Reed, C., and Macagno, F. (2008) *Argumentation Schemes*. Cambridge University Press.
Weber, M. (1978) *Economy and Society.* University of California Press.
Webster, D. and Kruglanski, A. (1994) Individual differences in need for cognitive closure. *Journal of personality and social psychology,* 67(6), 1049–62
Webster, D. and Kruglanski, A. (1997) Cognitive and Social Consequences of the Need for Cognitive Closure, *European Review of Social Psychology*, 8(1), 133–73.
Willard, C.A. (1990) Authority. *Informal Logic*, 12(1), 12–22.
Woods, J. (1995) Appeal to Force. In H. Hansen and R. Pinto (eds.) *Fallacies*. Penn State University Press.
Woods, J. (2013) *Errors of Reasoning: Naturalizing the Logic of Inference*. College Publications.
Worth, L. and Mackie, D. (1987) Cognitive Mediation of Positive Affect in Persuasion. *Social Cognition*, 5(1), 76–94.
Yalom, I. (1980) *Existential Psychotherapy*. Basic Books.

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